

Job Aid for an Automated Battalion Tactical Operations Center: Combat Vehicle Command and Control (CVCC) Application

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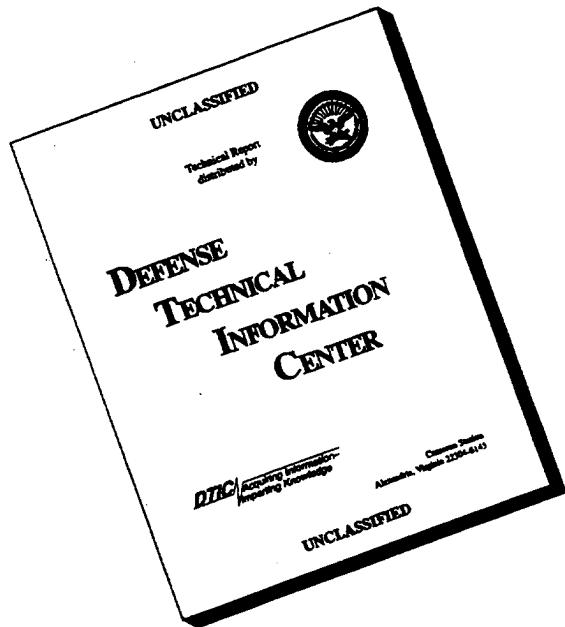
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JOB AID FOR AN AUTOMATED BATTALION TACTICAL OPERATIONS CENTER:
COMBAT VEHICLE COMMAND AND CONTROL SYSTEM (CVCC) APPLICATION

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JOB AID FOR AN AUTOMATED BATTALION TACTICAL OPERATIONS CENTER:
COMBAT VEHICLE COMMAND AND CONTROL SYSTEM (CVCC) APPLICATION

Introduction

The operational concept for the U.S. Army's future force, Force XXI, impacts the functions currently performed at all organizational levels (U.S. Department of Army, 1994). This concept's heavy reliance on advanced information technologies underscores its anticipated impact on battlefield information centers, such as Tactical Operations Centers (TOCs).

Currently, conventional TOCs are defined by location and a functionally aligned set of staff members organized to provide battlefield commanders a means to exercise control over his forces. Force XXI concepts stress that future information centers (e.g., Battle Support Centers) equipped with advanced information systems will become more mobile, smaller and more capable. Staff members assigned to Force XXI information centers are expected to become "actual players rather than just information gatherers and will, with the commander become leader teams" (U.S. Department of Army, 1994, p. 13). The changes anticipated in the Army's future battlefield information centers are far reaching, and such changes require the development of related training programs and performance aids.

The U.S. Army Research Institute (ARI) supported the Army's turn-of-the-decade efforts to explore the impact and potential of advanced information technologies on armor operations. This job aid developed for the staff members in an automated battalion TOC, for example, is one of the products that resulted from this work. Related work is summarized here to provide a documented context for this product.

ARI's initial efforts to evaluate the impact of advanced information technologies addressed crew and platoon performance using tank simulators equipped with automated Command, Control and Communication (C³) systems (Du Bois & Smith, 1989, 1991). Subsequent ARI efforts, under a research and development program titled Combat Vehicle Command and Control (CVCC), extended this vehicle-based work to armor company and battalion operations (Leibrecht, Winsch, Ford, Sawyer, Meade, Ainslie, Smith, Sever & Doherty, 1992; Leibrecht, Meade, Schmidt, Doherty & Lickteig, 1994; O'Brien, Wiggington, Morey, Leibrecht, Ainslie & Sawyer, 1992a). These CVCC efforts also included the development of an automated TOC to support battalion-level evaluations on advanced C³ systems. In contrast to a conventional battalion TOC's reliance on voice-based radio communications and paper maps, this automated TOC provided computer-based workstations with digital report capabilities and electronic map displays.

All of this ARI work on automated C³ systems, entailed soldier-in-the-loop evaluations conducted in a simulation test bed called SIMNET (Simulation Networking) at Fort Knox, Kentucky. This test bed's simulation architecture, Distributed Interactive Simulation (DIS), also served as the communication network that linked TOC- and simulator-based information technologies used by the participants in these ARI evaluations (Greess, 1994). The primary focus for this work included the evaluation of operational, usability and training issues associated with advanced information systems. This job aid reflects this work's emphasis on the impact of such systems on training (Ainslie, Leibrecht, & Atwood, 1992; Atwood, Winsch, Sawyer, & Meade, 1994; O'Brien, Morey, & LaVine, 1992b).

This report documents the job aid developed to support the digitally-equipped staff members who served in the CVCC automated battalion TOC. This CVCC TOC generally maintained the staff roles and functions of a conventional TOC. Specifically, the primary staff workstations for this automated TOC supported the tasks and responsibilities of the battalion commander or his Executive Officer (XO), the assistant to the Operations Officer (S3), the Intelligence Officer (S2), and the Fire Support Officer (FSO). Although conventional staff assignments and functions were maintained, the introduction of automated TOC workstations significantly impacted how information gathering, processing and distributing functions were performed (Leibrecht et al., 1994).

Procedures for gathering information on current battalion operations, for example, were highly automated and primarily entailed visually monitoring the TOC workstations' C³ map displays. These displays continuously updated the location and status of each simulated tank in the battalion, at either the individual tank or aggregate unit level (platoon, company, battalion) selected by each staff member. Status updates included ammo, equipment, fuel and personnel data provided in either color-coded (Green, Amber, Red and Black (GARB)) "pie-chart" overviews, or in bar-graph formats with numeric data (e.g., 150 gallons). Similarly, a mission planning/preparation tool called Concept of Operations (COO) allowed the command and staff group to preview a semi-animated sequence of unit locations for the operation, as planned, on an electronic Situation Display in the TOC. One telling example of this TOC's impact on performance was the "quiet" nature of this TOC, as communication mode shifted from conventional voice to automated digital reporting (Leibrecht et al., 1994).

This job aid was developed to address, in part, the changes in staff performance introduced by the insertion of these automated TOCs. Job aids are generally recommended when workers are expected to perform novel and complex procedural tasks, and particularly when that work supports real-time operations. This particular job aid was developed, therefore, to assist CVCC TOC staff members in the performance of novel procedures and subtasks during battalion evaluation exercises. As an integral part of

the CVCC test units conducting battalion-level operations, the staff and their TOC workstations exchanged digital communications with the battalion's simulator-based unit and tank commanders equipped with compatible C³ displays, over the DIS network. In general, this job aid provides detailed descriptions of the procedures required for performing the TOC's information gathering, processing and distributing functions (see also O'Brien et al., 1992b). In particular, the aid provided the CVCC staff members with directions on when and how to perform essential staff actions during real-time battalion level operations (see also O'Brien et al., 1992b).

Publication of this job aid may highlight the need for related training initiatives and performance aids in support of ongoing Force XXI efforts to apply advanced information technologies. Although the impact of the CVCC TOC technologies was markedly less than those envisioned for Force XXI Battle Support Centers, job aids should facilitate the performance of future operators using advanced information systems. Documentation of this job aid may also guide training developers in their efforts to provide the training support needed for emerging Force XXI information systems.

As postscript, this job aid is provided in the Appendix to retain its original paper-based, 3-ring format. In contrast, electronic, on-line formats for job aids are now almost routine for computer-based applications. While an on-line version of this TOC job aid was considered for the CVCC program, resources and priorities prevented its development.

References

Ainslie, F. M., Leibrecht, B. C., & Atwood, N. K. (1992). Combat vehicle command and control systems: III. Simulation-based company evaluation of the soldier-machine interface (SMI) (ARI Technical Report 944). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A246 237)

Atwood, N. K., Winsch, B. J., Sawyer, A. R., & Meade, G. A. (1994). Training and soldier-machine interface for the combat vehicle command and control system (ARI Technical Report 1007). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A285 677)

Du Bois, R. S., & Smith, P. G. (1989). Simulation-based evaluation of a position navigation system for armor: Soldier performance, training, and functional requirements (ARI Technical Report 834). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, Fort Knox Field Unit. (AD A210 696)

Du Bois, R. S., & Smith, P. G. (1991). Simulation-based assessment of automated command, control, and communication capabilities for armor crews and platoons: The intervehicular information system (IVIS) (ARI Technical Report 918). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, Fort Knox Field Unit. (AD A233 509)

Greess, M. (1994). The combat vehicle command and control system architecture overview (ARI Research Product 95-05). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A286 259)

Leibrecht, B. C., Meade, G. A., Schmidt, J. H., Doherty, W. J., & Lickteig, C. W. (1994). Evaluation of the combat vehicle command and control system: Operational effectiveness of an armor battalion (ARI Technical Report 998). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A282 727)

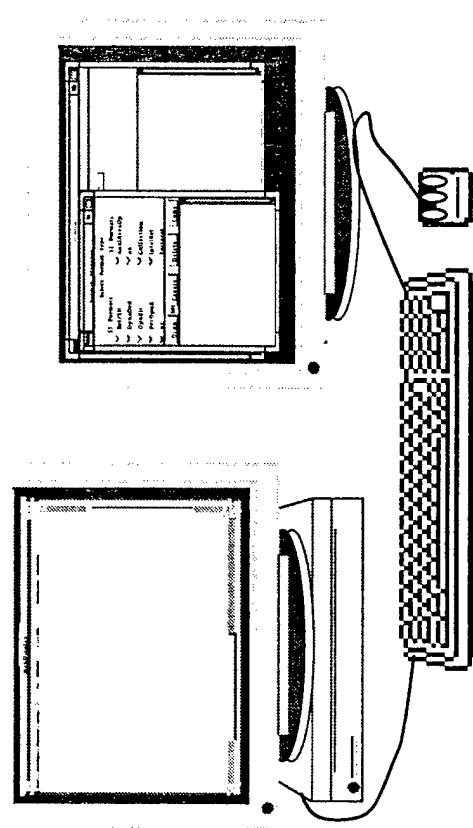
Leibrecht, B. C., Winsch, B. J., Ford, L. A., Sawyer, A. R., Meade, B. A., Ainslie, F. M., Smith, P. G., Sever, R. S., & Doherty, W. J. (1992). Battalion evaluation of the combat vehicle command and control system in distributed interactive simulation: Preliminary findings (ARI Technical Report 992). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A275 912)

O'Brien, L. H., Wiggington, D., Morey, J. C., Leibrecht, B. C., Ainslie, F. M., & Sawyer, A. R. (1992a). Combat vehicle command and control battalion-level preliminary evaluation (ARI Research Report 1627). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, Fort Knox Field Unit. (AD A257 467)

O'Brien, L. H., Morey, J. C., & LaVine, N. D. (1992b). Training requirements analysis for combat vehicle command and control system tactical operations center (ARI Research Report 1624). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, Fort Knox Field Unit. (AD A254 541)

U. S. Department of the Army (1994). Battle command: U.S. Army battle dynamic concept (TRADOC Pamphlet 525-200-1). Fort Monroe, VA: Author. (Available from the Commander, U.S. Army Training and Doctrine Command, ATTN: ATDO-P, Fort Monroe, VA 23651-5000)

Battalion Tactical Operations Center (TOC) Workstation



Job Aid

FOREWORD

This Job Aid is designed as a quick-reference guide for users of the Combat Vehicle Command and Control (CVCC) Battalion Tactical Operations Center (TOC) workstations. The Job Aid is for use by personnel who have completed the TOC workstation training developed for the CVCC evaluations.

Because of the modular design of the TOC workstations, this Job Aid applies to users of any type CVCC TOC workstation (e.g. S2, FSO, Assistant S3). The design allows functional modules to be activated / deactivated for selected workstations based on functional role of the user. This modular approach is intended to provide maximum configuration flexibility and operational redundancy.

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INTRODUCTION

The purpose of this Job Aid is to provide a quick-reference guide to augment the CVCC TOC Workstation Training Course. It is designed as an aid to the trained workstation operator, not as a stand-alone training document.

The workstation configuration and network presented in the Overview section are for illustrative purposes. The modular design of the system allows for multiple and redundant workstation functionality, and a networking capability that provides internal workstation linkages as well as external connections to simulators and higher headquarters.

Users of this Job Aid should refer to the CVCC TOC Workstation Training Course for a detailed explanation of terms and a full description of the system functionality and operations.

USING THE JOB AID

Organization

The Job Aid is organized by major module and associated functional areas. After a general overview section and system management section, each of the modules is presented as part of the total system functionality and addresses the features available to the user.

Each feature sub-section is designed to provide an outline of action/response activities (right side of page) and their associated screen displays (left side of page). In some cases, where functionality has been previously illustrated, only appropriate sub-menus are displayed on the left side of the page.

USING THE JOB AID (continued)

Conventions

- M1 tank symbol,**  - indicates major feature headings
- Circled numbers, e.g., ①-** indicates association between outline item (right side of page) and graphic illustration (left side of page)
- Boxed word, e.g., Map** - indicates menu item or "button" on which to place pointer
- Arrow, →** - pointer displayed on screen illustrations
- Return Key, ↵** - key on workstation keyboard used to apply some labels/functions
- Italicized words, e.g.,** *Window* - indicates response from the system
Window will be restored to screen

OVERVIEW

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OVERVIEW

Battalion TOC Workstation

Map Display Monitor

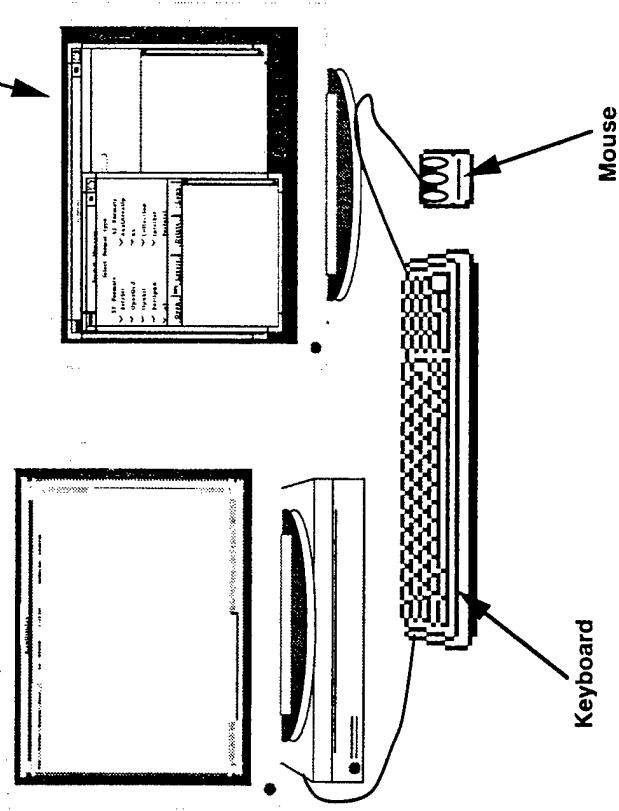
Message Monitor

Purpose

User's Job Aid

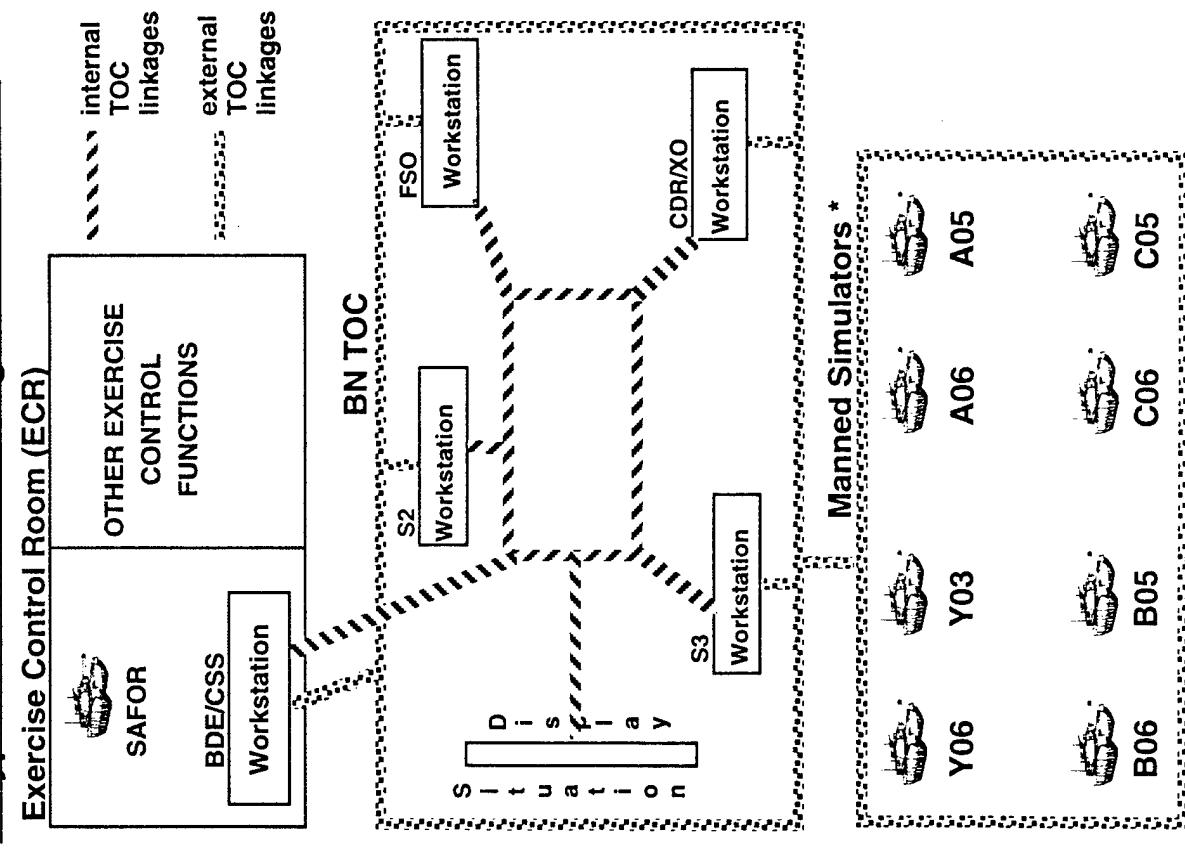
Assumes Workstation Training

Quick-Reference Guide



OVERVIEW

A Type-Workstation Configuration/Network



* NOTE: All manned simulators are linked to the TOC and to each other

Tactical Operations Center Workstation Configurations

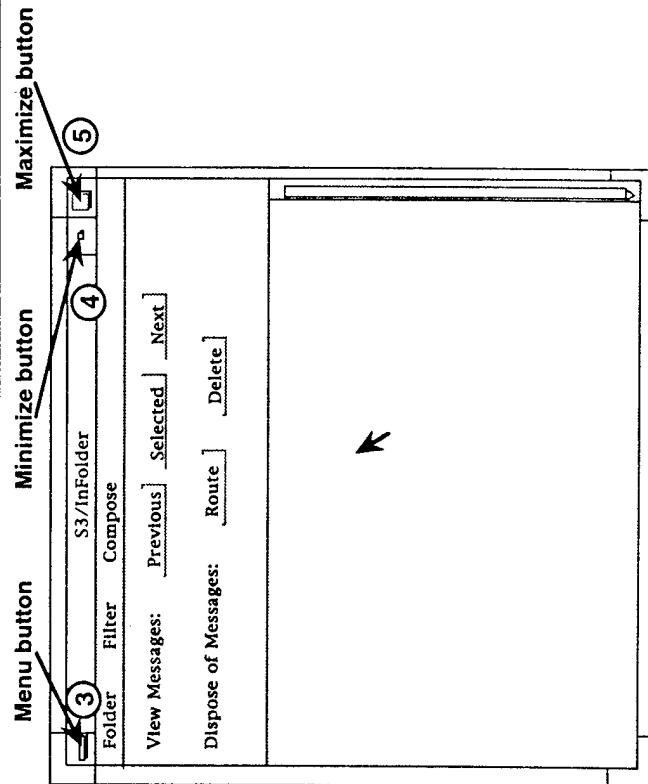
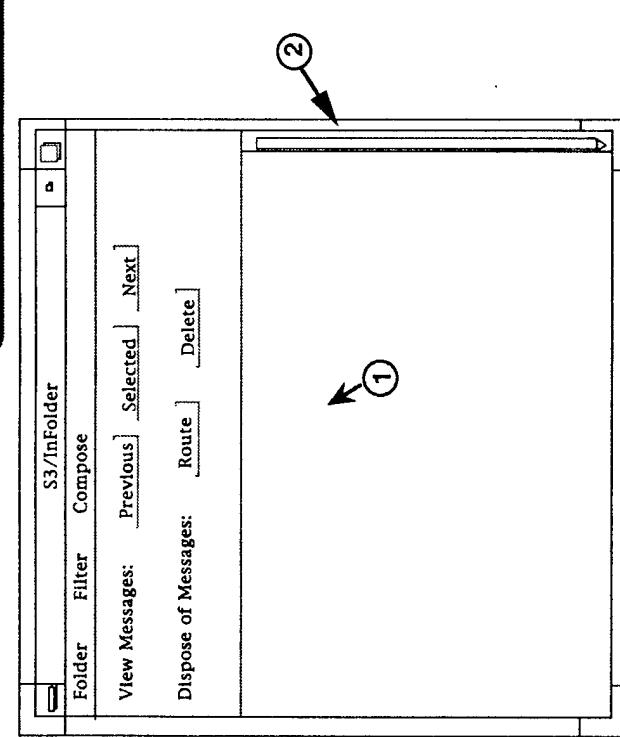
<u>S-3 Workstation</u>	<u>S-2 Workstation</u>	<u>FSO Workstation</u>	<u>CDR/XO Workstation</u>	<u>CSS Workstation</u>
Overlay Module Message Module S-3 Formats Module Workbook Module Concept of Operation Module Operational Effectiveness Module Task Organization Module	Overlay Module Message Module S-2 Formats Module Workbook Module Operational Effectiveness Module	Fire Planning Module Overlay Module Message Module Workbook Module	Concept of Operation Module Overlay Module Message Module S-3 Formats Module Operational Effectiveness Module Task Organization Module	Logistics Module Operational Effectiveness Module Message Module Workbook Module Overlay Module Utilities SEND CHECKPOINT

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System Management



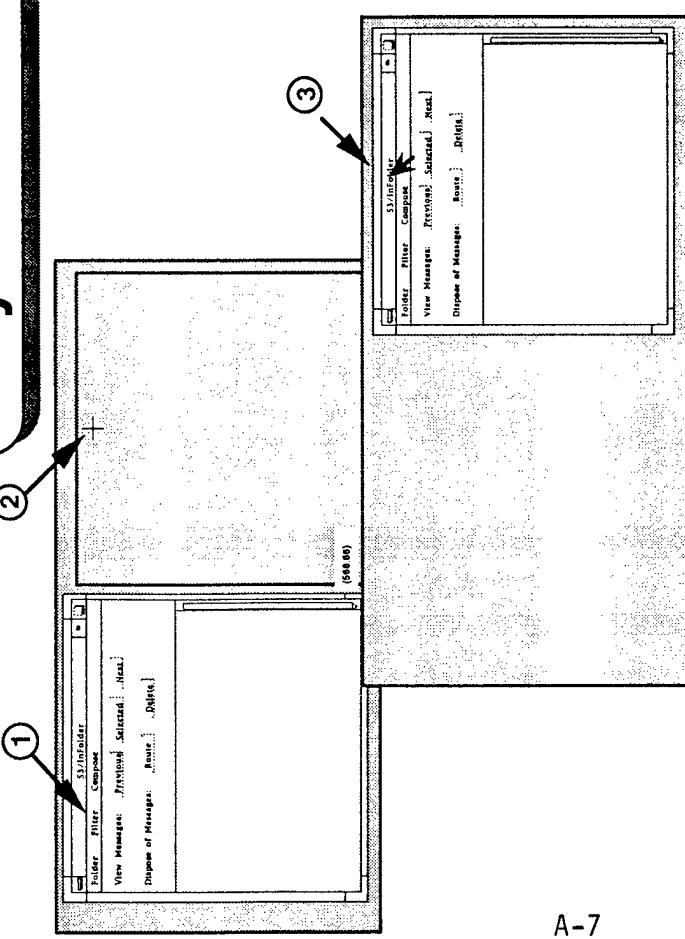
Activating a Window:

- ① Point to any part of window
- ② Window frame color will change to light tan color

Window Features:

- ③ Menu Button -- Selects functions to control window size and location
- ④ Minimize Button -- Shrinks window to an icon menu
- ⑤ Maximize Button -- Enlarges window to cover entire screen

System Management



Windows (cont.)

Moving a Window:

① Point to a title bar

Press and hold left mouse button

② Drag to desired location

Release mouse button

③ Window will "drop" at new location

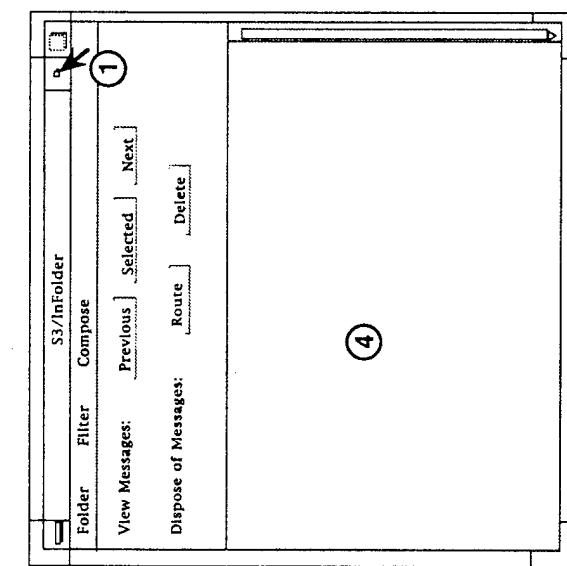
Resizing a Window:

To stretch or shrink the window...	Point to...
vertically from the top	top of the frame, above the title bar
vertically from the bottom	bottom of the frame
horizontally from the right	right side of the frame
horizontally from the left	left side of the frame
diagonally from the bottom left corner	frame's lower left corner
diagonally from the top left	frame's upper left corner
diagonally from the top right	frame's upper right corner
diagonally from the bottom right	frame's lower right corner

Release mouse button

Window will redraw at new size

System Management



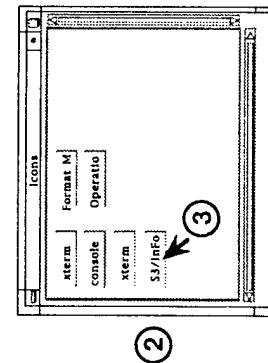
Windows (cont.)

Reducing Windows to Icons:

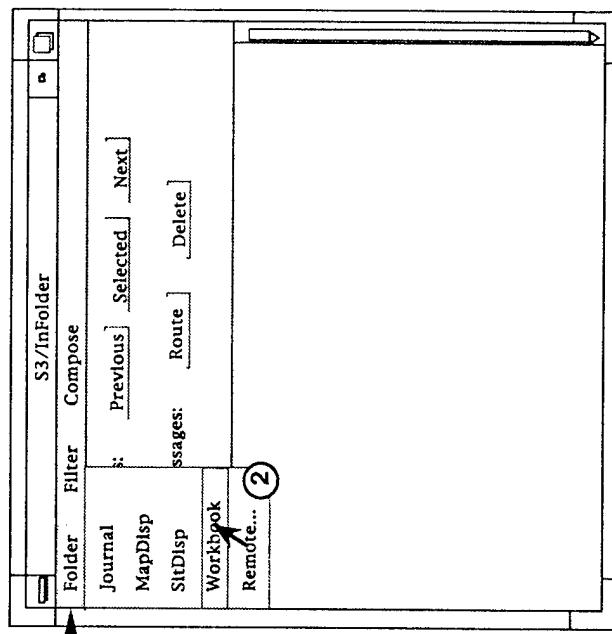
- ① Click left mouse button on Minimize Button
- ② Window will become a title bar in an icon menu

Restoring Windows:

- ③ Double click left mouse button on title bar in icon window
- ④ Window will be restored to screen



System Management



Selecting Menu Items:

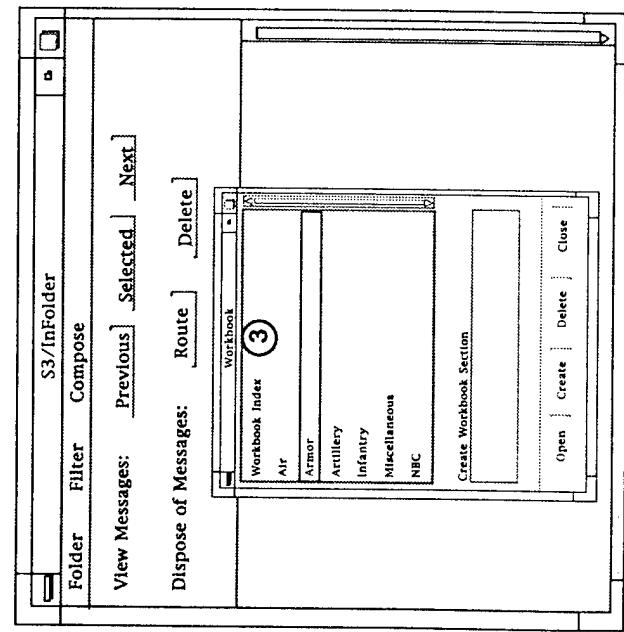
① Point to desired menu title (e.g. Folder)

Hold left mouse button down

Drag pointer down menu

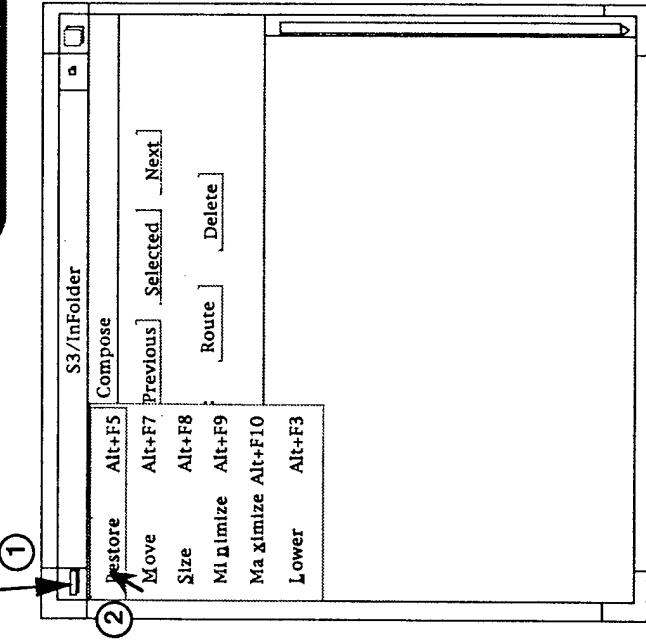
② Release mouse button on highlighted selection (e.g. Workbook)

③ Selected menu item will appear as a window



System Management

Menu button



Menus (cont.)

Selecting a Menu function:

- ① Click left mouse button on menu button

Drag pointer down menu

- ② Release button on highlighted selection

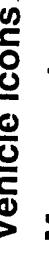
The selected function will be executed *

To do this...	Choose...
Restore a window to its previous size and location	Restore
Change the location of the window	Move
Change the size of the window	Size
Enlarge the window to cover the entire screen	Maximize
Shrink the window to an icon title bar	Minimize
Send a window to the back or bottom of the window stack	Lower

* NOTE: Function keys (i.e. Alt + F₁ to F₁₂) are not operational at this time

MAP MODULE

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MAP MODULE



Features

Overlays

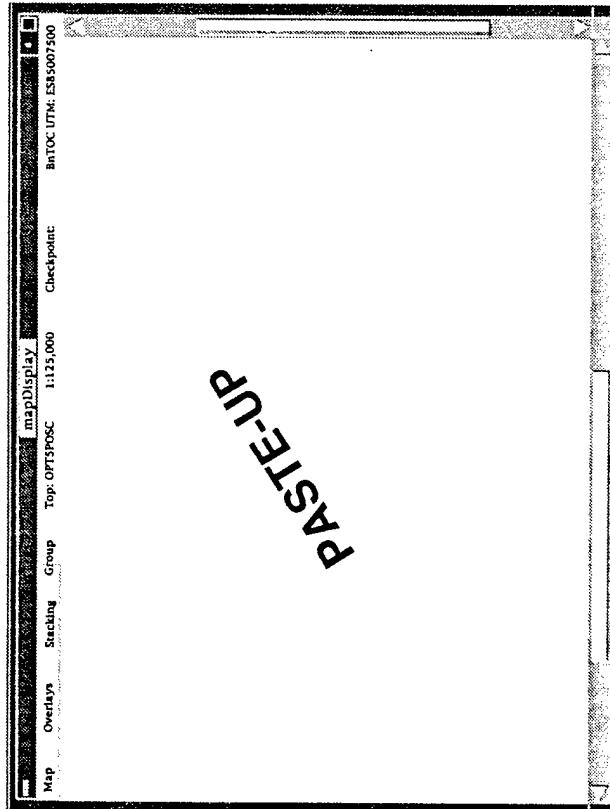
Stacking capability
NATO symbology
Storage/retrieval
Editing

Vehicle Icons

Automatic POSNAV posting
(friendly only)
Aggregation / deaggregation
Near real-time updating

Message Icons

Posting to map display
Icon/text message linkage
Flashing highlighter



MAP MODULE



Scaling

- ① Point to Map menu
- ② Click on desired scale

Map, overlay(s), icons, and text will adjust accordingly

Scrolling

- ① Point to Map menu
- ② Click on desired method:

③ **Center Home** - centers display on BnTOC UTM coordinates

④ **Remove Scroll Bars** - on/off toggle for scroll bars

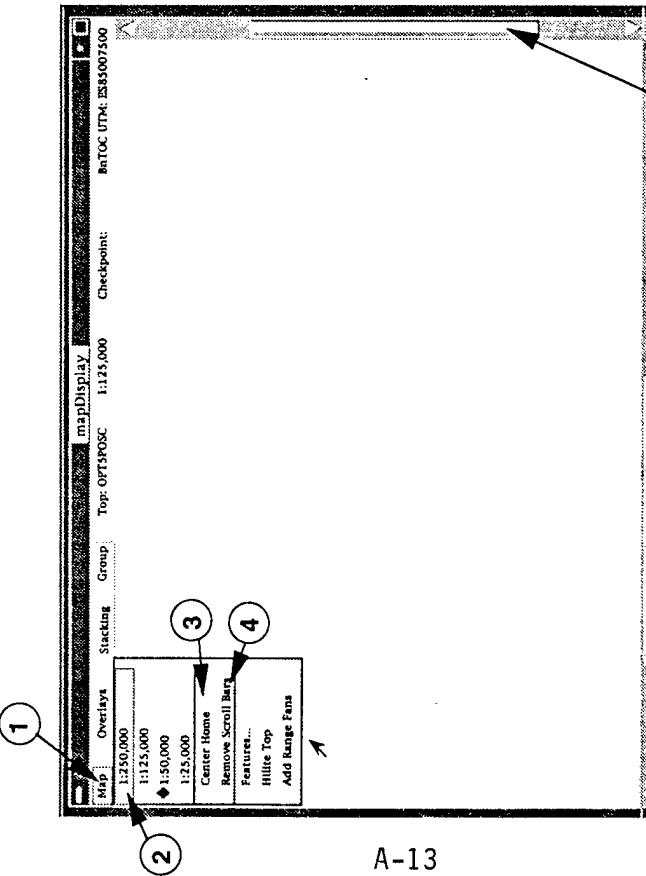
Auto-scrolling - moving ("bumping") created objects against edges of screen will cause map display to scroll (in Edit Overlays mode only)

Dragging - Click and hold right mouse button

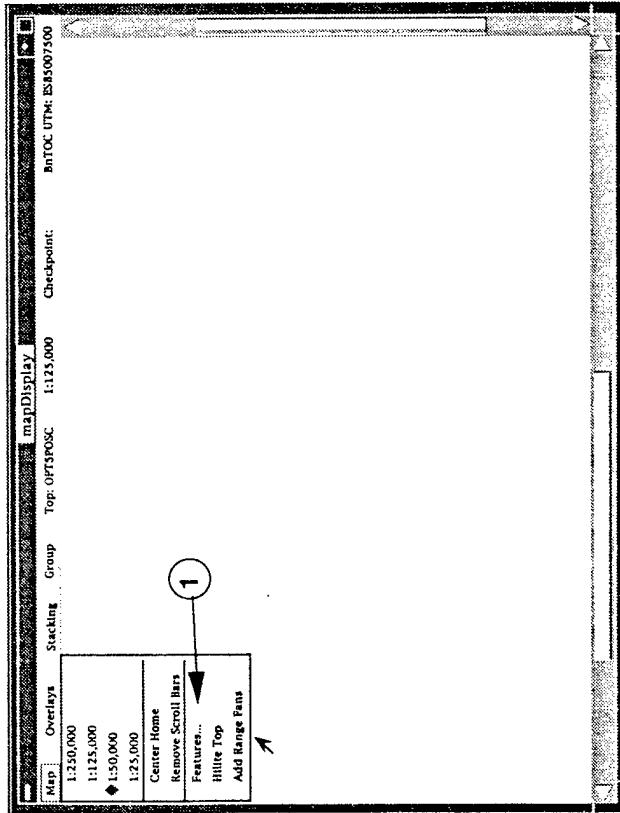
Move cursor to desired location

Release right button at desired location

Screen will scroll to new location



MAP MODULE



Operations (cont.)

Selecting Map Features

① Click on **Features** option

Toggle on/off desired feature(s) *

② Contour Lines

③ Grid Lines

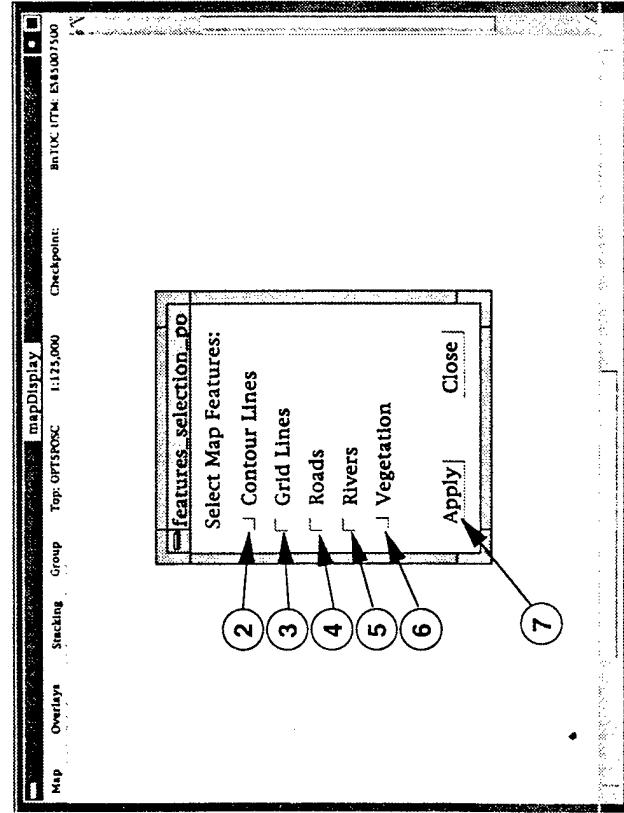
④ Roads

⑤ Rivers

⑥ Vegetation

⑦ Click on **Apply**

Selected features will be displayed on the map screen



* Note: You may select any combination of features -- or none at all

OVERLAYS

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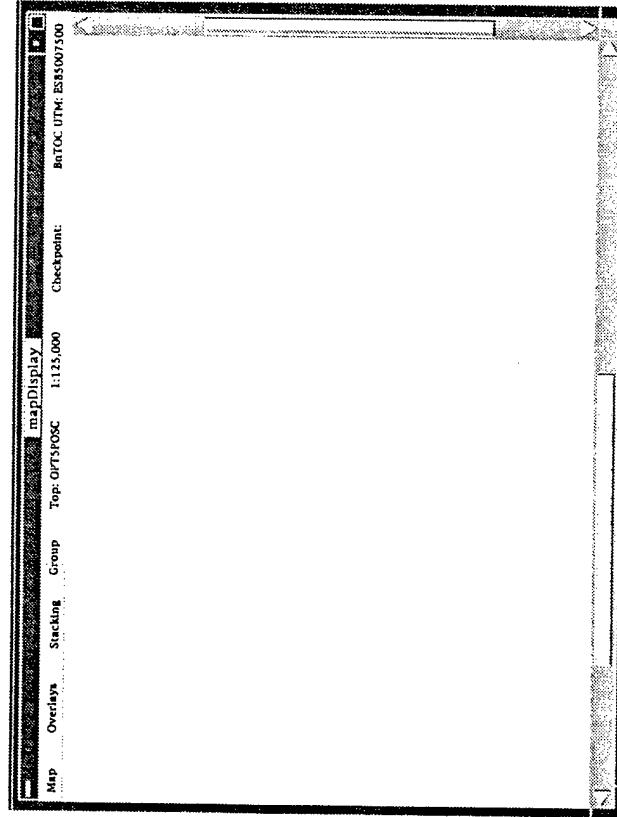
Overlays

Modes



Normal Mode

Map Display in Normal Mode



You may:

- Select / deselect features
- Highlight top overlay
- Add / delete range fans
- Select an overlay to edit
- Name a new overlay to create
- Send an overlay to a simulator
- Copy an overlay from another workstation
- Delete overlays to/from the stack
- Show text associated with an existing overlay
- Post / unpost or rotate stacking order

Edit Mode

Occurs when **Overlay** menu is selected

You may:

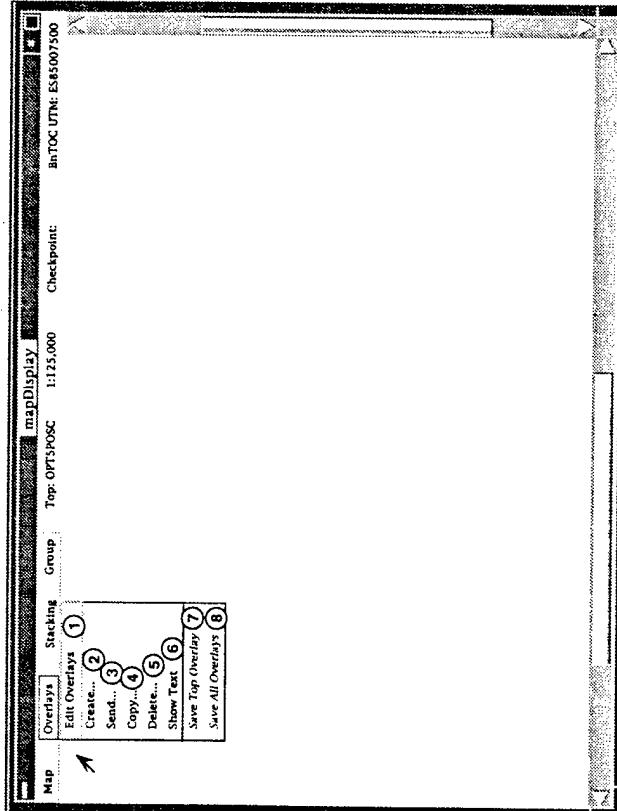
- Edit an existing overlay
- Create a new overlay
- Save top or all overlays

Overlays

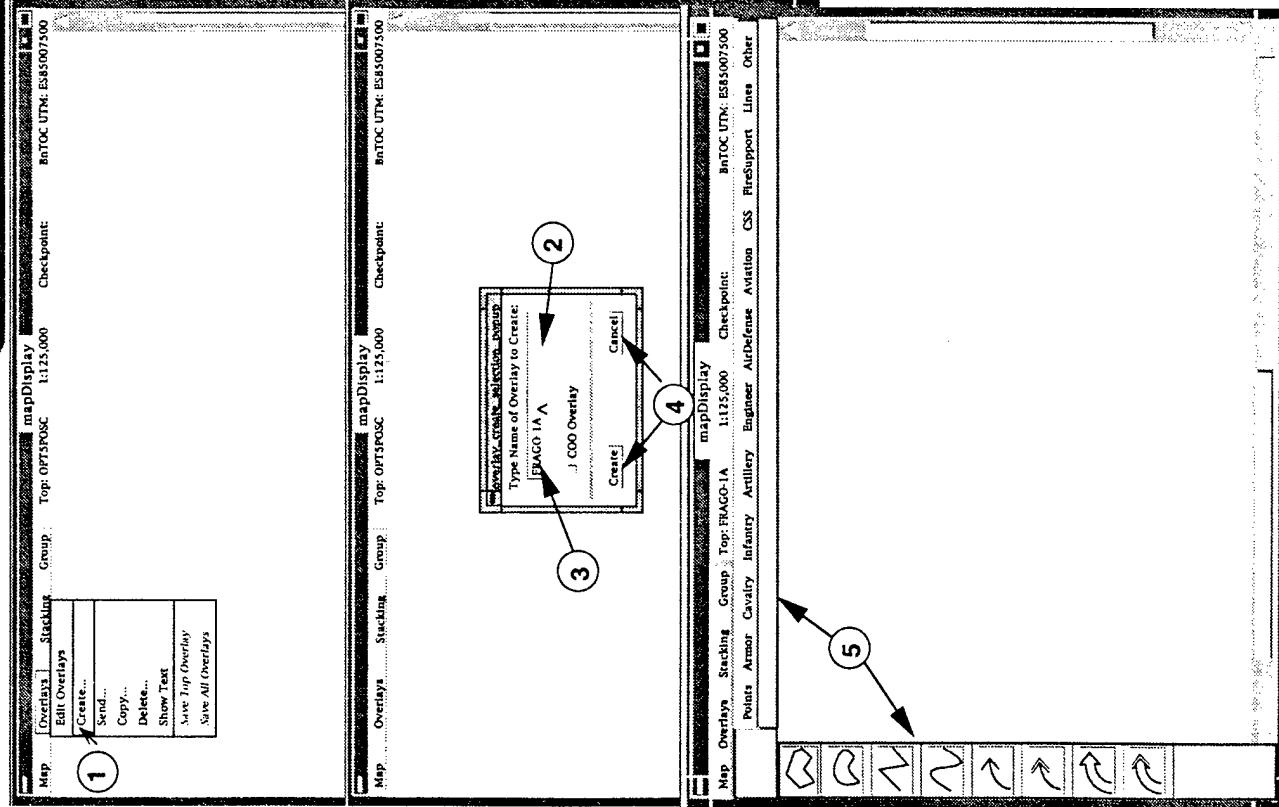


Options

- ① **Edit Overlays** - edits existing overlay
- ② **Create** - creates a new overlay
- ③ **Send** - sends an overlay to the MI Simulators and other workstations on the Battalion Command Net, and to the TOC Situation Display Map
- ④ **Copy** - allows a workstation to copy an overlay from another workstation
- ⑤ **Delete** - deletes an overlay from the workstation disk
- ⑥ **Show Text** - displays text associated with the top overlay
- ⑦ **Save Top Overlay** - saves an edited/created overlay
- ⑧ **Save All Overlays** - saves all edited/created overlays



Overlays



① Select **Create** from Overlays menu

② Click on name window

③ Type name of overlay in window
(Maximum of eight characters with no
blank spaces allowed)

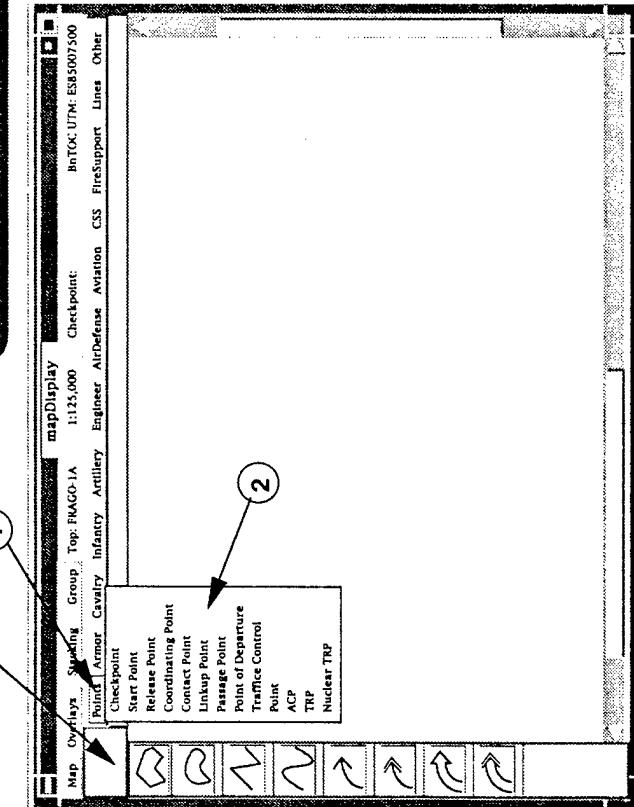
④ Select **Create** (or **Cancel** if desired)*

⑤ Overlay tools become available on screen

* NOTE: COO Overlays are addressed in a later tab

Overlays

Preview Box



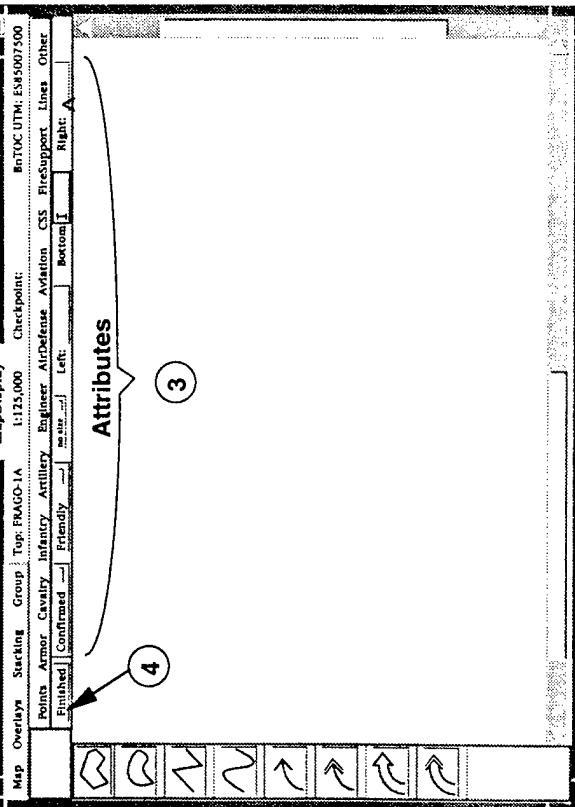
Creating Overlays (Cont.)

Creating points of interest

- ① **Select Points option**
- ② **Click on desired object**
- ③ **Object icon will appear in the preview box**
- ④ **Select attributes (see below)**
- ⑤ **Click on desired object location**
- ⑥ **Icon will "drop" on screen**

Defining appropriate attribute

- ③ **Select appropriate attribute**

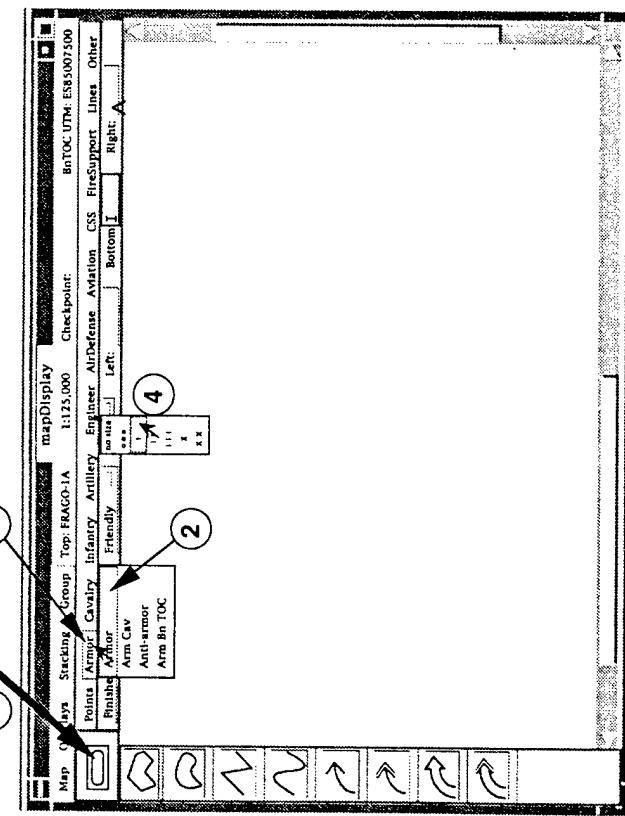
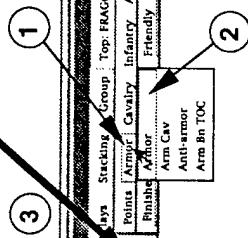


Unconfirmed: dashed line
Confirmed: solid line
Friendly: blue icon
Enemy: red icon
Size: pt, co, etc.
Left: left label
Bottom: bottom or center label
Right: right label

- ④ **Select Finished when object is complete**

Overlays

Preview Box



Creating Overlays (Cont.)

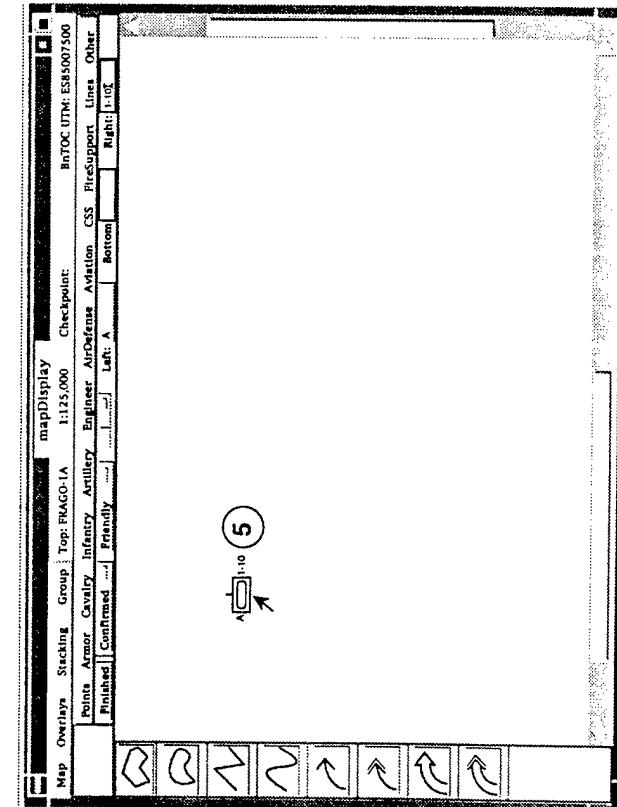
Creating Unit Symbols

- ① Select general unit type from menu bar
- ② Click and drag pointer to specific unit type
- ③ Unit symbol appears in Preview Box

Define attributes

Friendly/Enemy
Click and drag

- ④ Size
- ⑤ Click and drag
- Labels
- Type and return

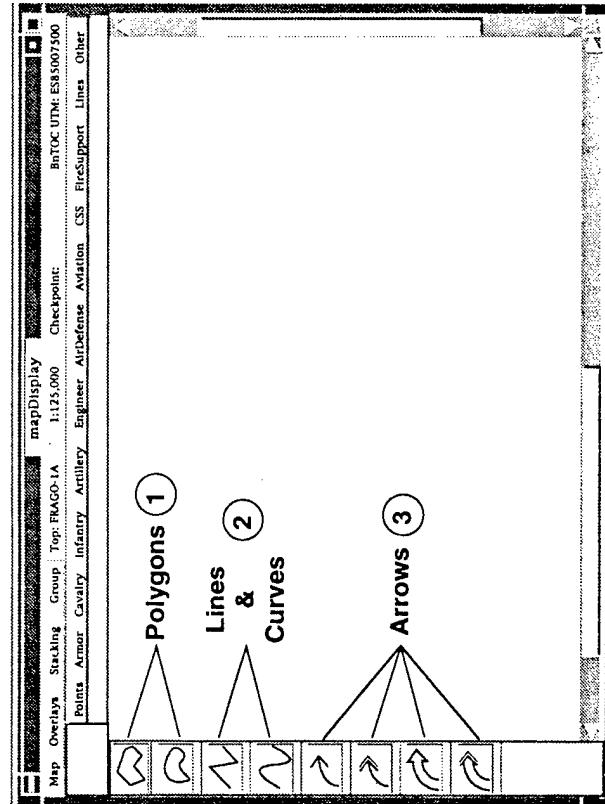


Attributes appear with unit symbol in Preview Box

Move cursor to desired location and click left mouse button

- ⑤ Unit symbol with defined attributes appears at designated location on map screen

Overlays



Creating Overlays (Cont.)

Creating Control Measures

Types:

- ① **Polygons** - used to designate areas, e.g., engagement areas, battle positions, objectives, etc.
- ② **Lines and curves** - used to designate linear control measures, e.g., phase lines, boundaries, FLOT, etc.
- ③ **Arrows** - used to designate direction of movement, e.g., axis of advance, direction of attack, routes, etc.

Overlays

Creating Overlays (Cont.)

Polygons and Lines:

① Select desired object

Icon appears in preview box

Attribute menu appears

Define attributes

Line - thickness options

Status - dashed or solid line

Alignment - friendly / enemy

Unit size - size symbol

Label - area or line designation

draw polygon / line

卷之三

Click on left button at desired

**Click on left button at desired location-
first point of polygon will be placed on
screen**

Move to next location and click left button again - continue placing individual points

Click once on middle button to terminate drawing - area or line is now complete *

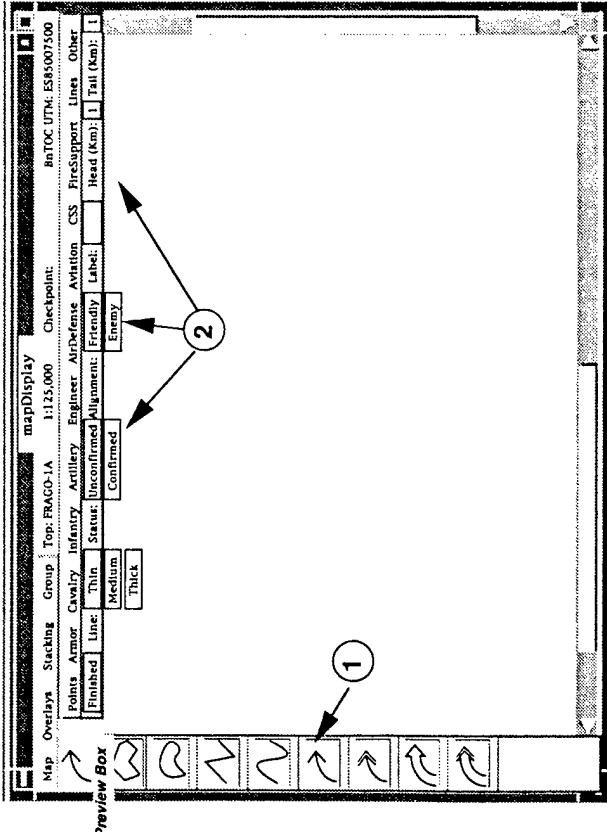
* NOTE: Do not overlay last point on first point

Overlays

Creating Overlays (Cont.)

Arrows

1 Select desired arrow type
2 Define attributes

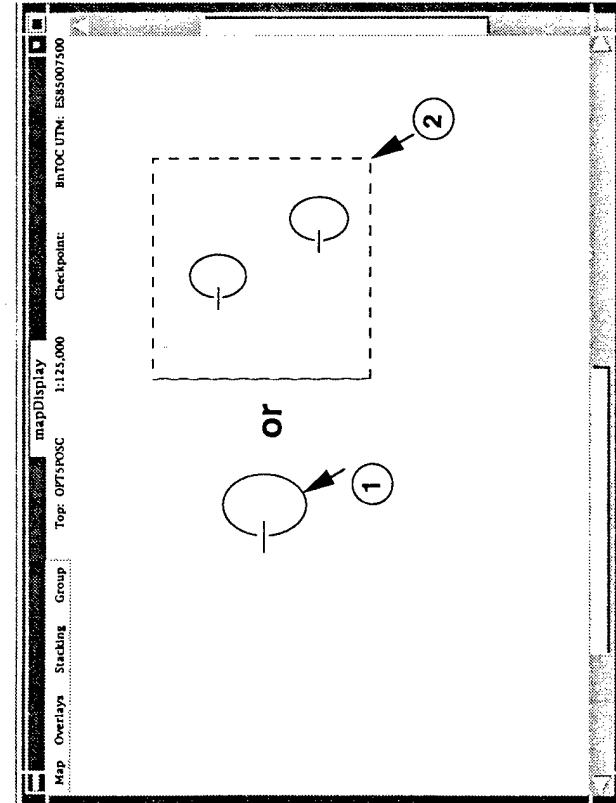


Click on left button at desired location -
first point of arrow tail will be placed on screen

Move to next location and click on left button again - continue placing individual points

Click once on middle button to place last point - arrowhead

Overlays



Editing and Manipulating Objects

Selecting Objects

Single object:

① Click on object

Multiple objects:

- Click and hold on empty space near objects
- ② Drag cursor until box surrounds objects
- Release mouse button

Alternative *

Hold down <SHIFT> key and click on each object

Deselection of grouped objects:

Click on empty screen space

Alternative

Hold down <SHIFT> key and click on object(s) to be deselected

Operations

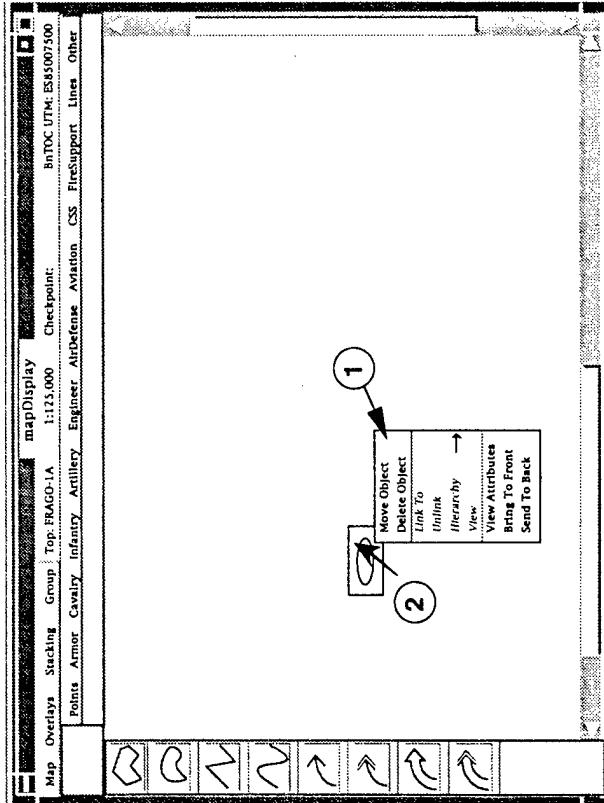
③ Select **Group** menu to move, duplicate, or delete a group of objects

* NOTE: alternatives are not graphically depicted in this Job Aid

Overlays

Editing and Manipulating Objects (Cont.)

Moving Objects



For a single object:

- ① Select **Move Object** from object menu
- Place cursor at new location (do not click on object)
- Click left mouse button
- ② Object will drop on screen

Alternative

Click on object with **middle mouse button**

Without releasing, drag object to new location

Release button to drop object

Alternative

For a group of objects:

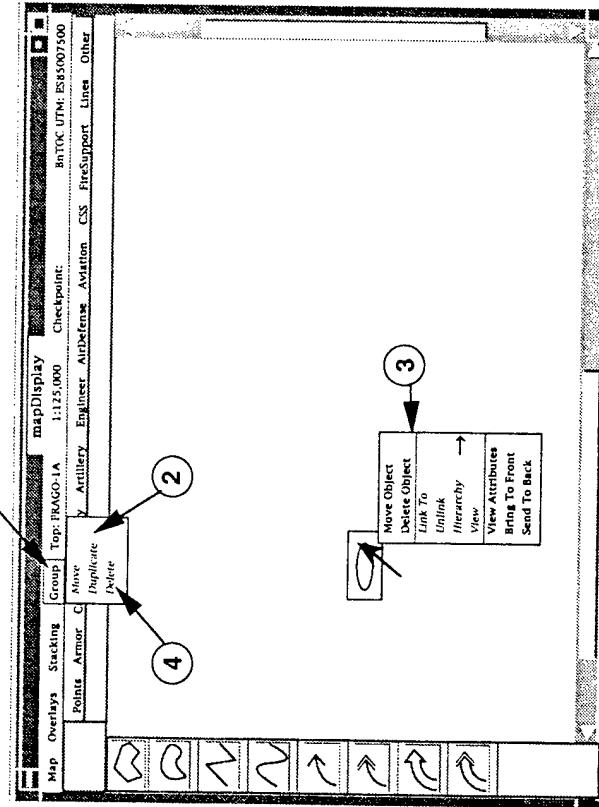
Select **Move** from the **Group** menu "Box" objects

Move cursor to desired location

Click left button to drop group of objects

Overlays

Editing and Manipulating Objects (Cont.)



Moving Lines

Same as Moving Objects

Duplicating Multiple Objects

- ① **Select group of objects**
- ② **Select Duplicate from Group menu**

Duplicate objects appear slightly offset

Deleting Objects and Lines

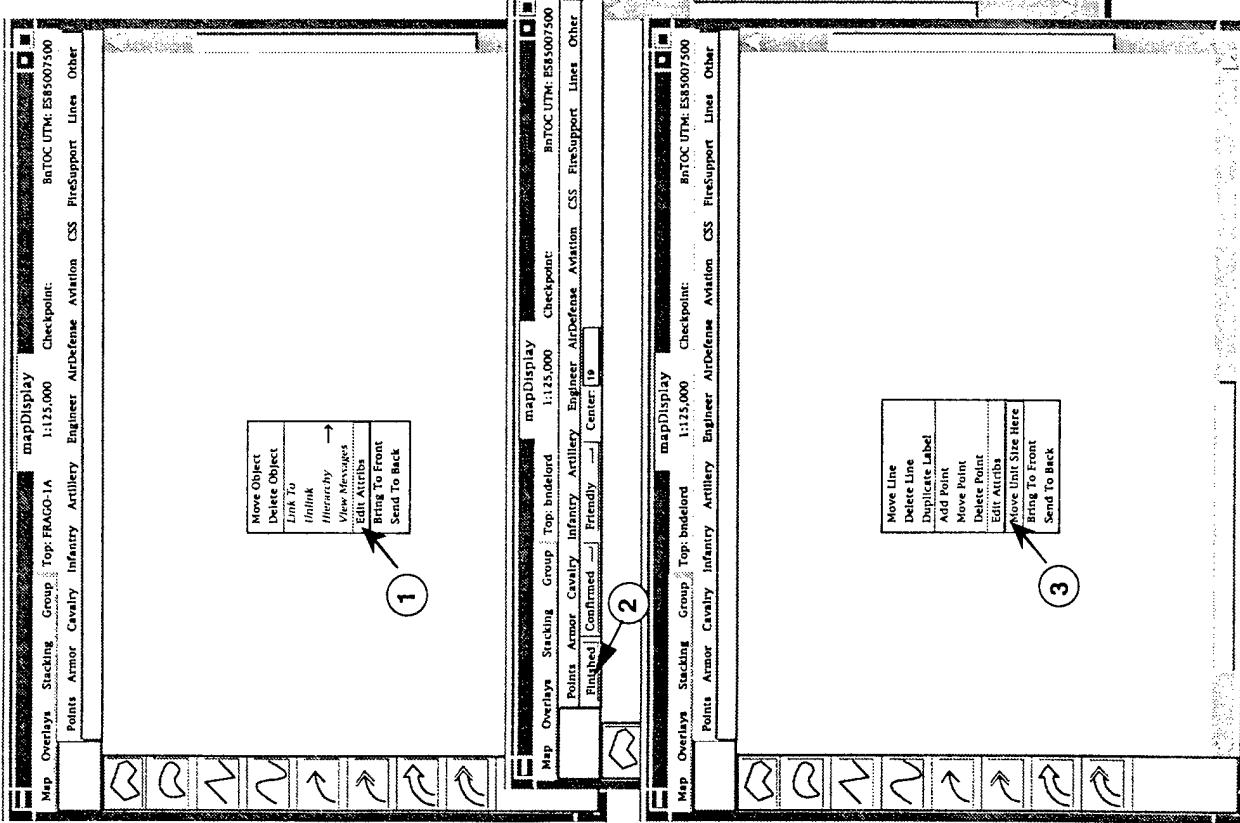
- ③ **Single object: Select Delete Object or Delete Line from Object menu**

System will request confirmation before deleting

- ④ **Multiple Objects: Select Delete from Group menu**

System will request confirmation before deleting

Overlays



Editing and Manipulating Objects (Cont.)

Changing Attributes

Click on object
① Select Edit Attributes from Object menu

Attribute menu bar will appear

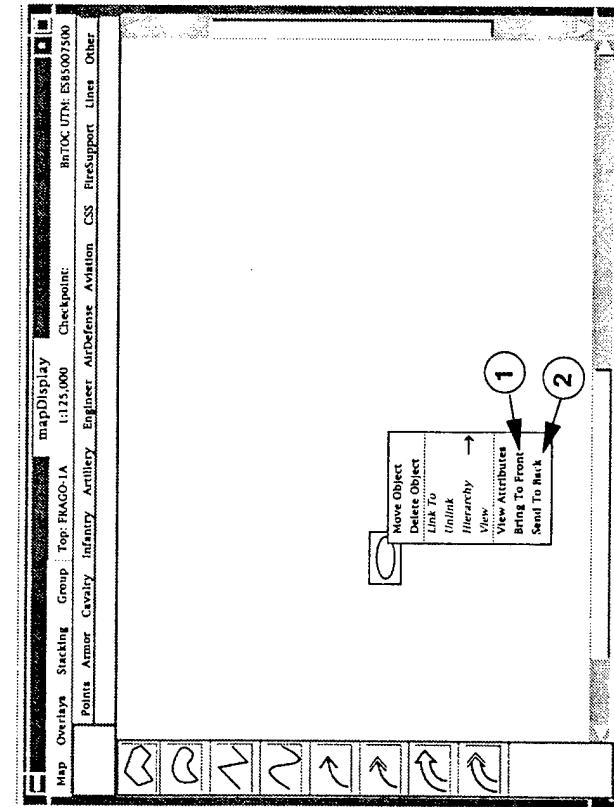
Enter desired changes (changes appear on screen, not in Preview Box)
② Click on Finished when complete

Moving Unit Size Designator (For Lines and Polygons only)

Click on desired location along line or polygon
③ Select Move Unit Size Here from Object menu

Unit size symbol will appear at new location

Overlays



Editing and Manipulating Objects (Cont.)

Changing Stacking Order

Click on object

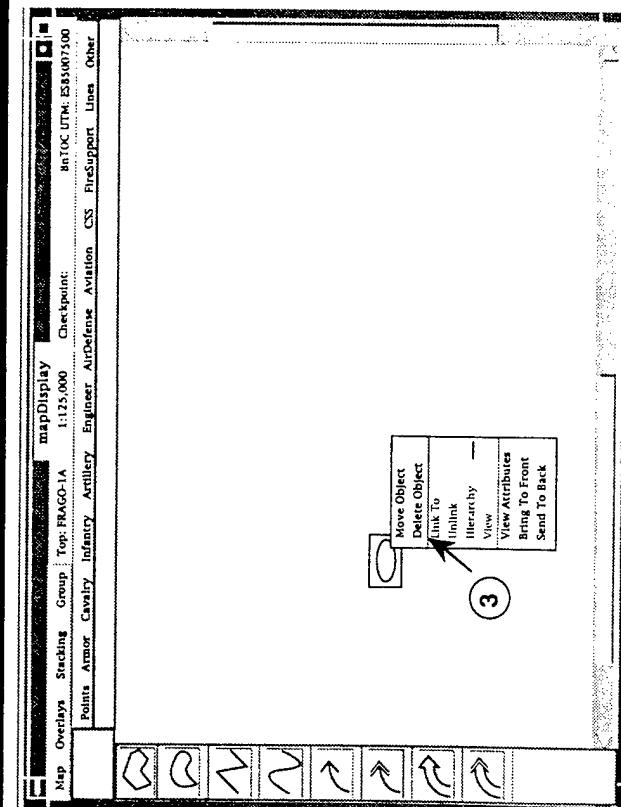
- ① Select **Bring To Front** to place object on top of other objects
- ② Select **Send To Back** to place object underneath other objects

Linking Unit Symbols

Click on symbol lower in the hierarchy

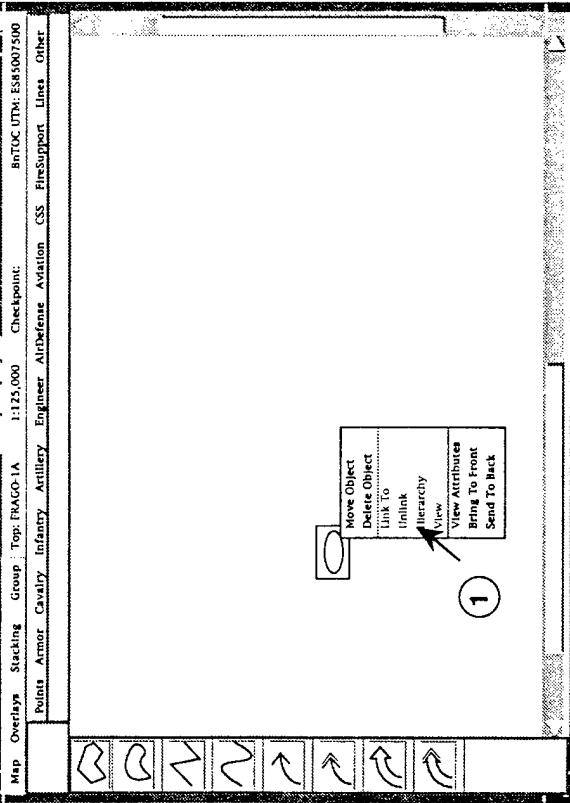
- ③ Select **Link To** from Object Menu
- Move cursor to unit symbol desired to link to (an arrow attached to the first symbol appears as the cursor is moved)
- Position arrow on unit symbol desired
- Click left mouse button

Linked object will disappear



Overlays

Editing and Manipulating Objects (Cont.)



Viewing Linked Unit Symbols

Click on object

① **Select Hierarchy** from Object menu
(available only when object is linked)

Select desired layer *

Higher levels -

Displays requested level and removes all subordinate levels

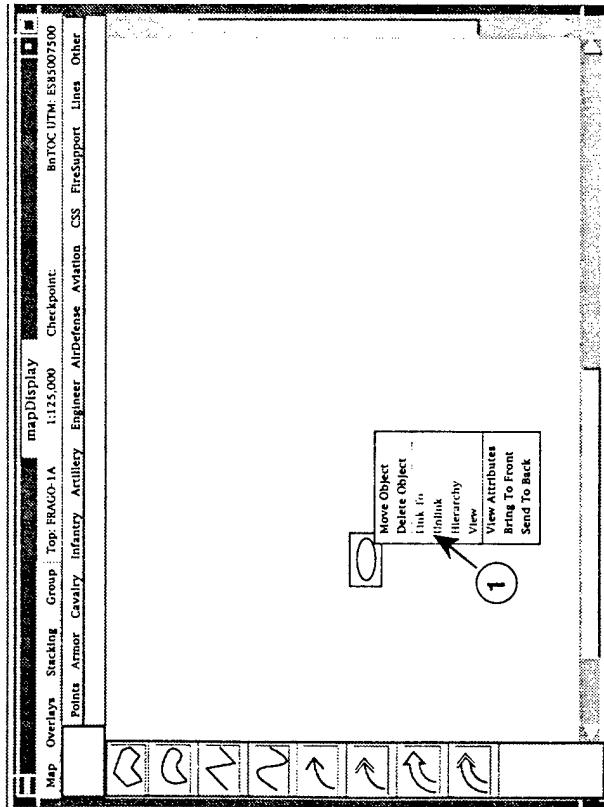
Lower Levels -

Removes superior level and displays all subordinates

* NOTE: Only one level of hierarchy may be viewed at a time

Overlays

Editing and Manipulating Objects (Cont.)



Click on object

① Select **Unlink** from Object menu

Single unit symbol will appear on the screen

Overlays

Editing and Manipulating Objects (Cont.)

Control Measure Labels

Moving Labels

Position cursor on label

- ① **Select [Move Label] from Object menu**
- Move cursor to new location
- Click on left mouse button

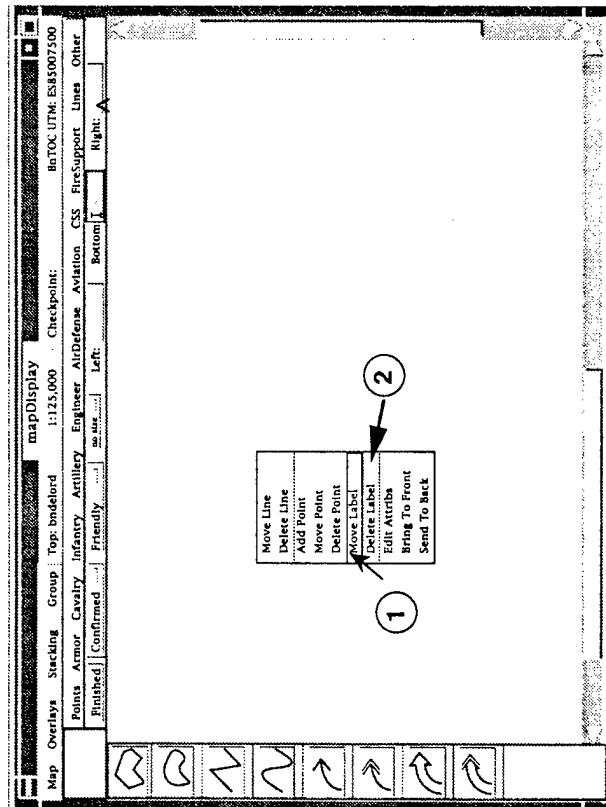
Alternative

- Click and hold **middle** mouse button on label
- Drag to new location
- Release middle mouse button to drop label

Deleting Labels

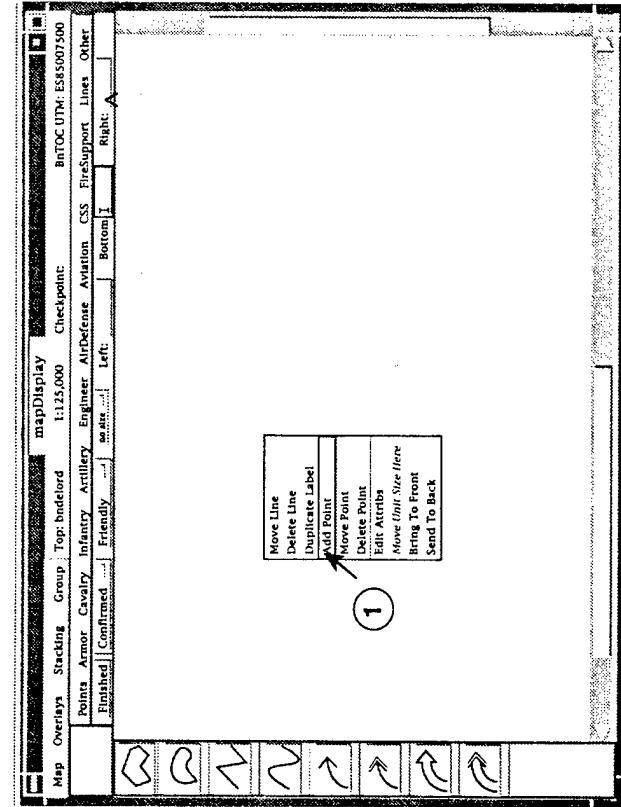
Position cursor on label

- ② **Select [Delete Label] from Object menu***



* NOTE: System does not ask for confirmation before deleting

Overlays



Editing and Manipulating Objects (Cont.)

Control Measure Points

Adding points

Click on existing point on object

- ① **Select Add Point from Object menu**
New point will appear to the left of point clicked

Position cursor at desired location

Click left mouse button

New point will appear

Moving points

- ② **Select Move Point from Object menu**
Position cursor over point on object

- ③ **Click on cursor at new location**

Alternative

- ① **Click and hold middle mouse button on desired point**
Hold and drag point to new location

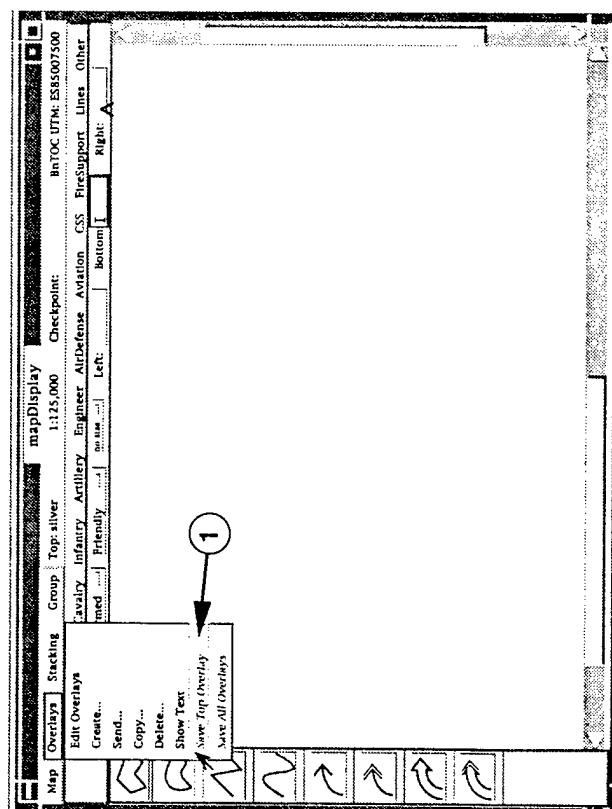
- ② **Release middle button to drop point**

Deleting points

- ③ **Select Delete Point from Object menu**

* NOTE: System will not ask for confirmation before deleting

Overlays



Saving Overlays



Saving Newly Created Overlays

① Select **Save Top** from Overlays menu

Overlay will be saved to disk and may be recovered at any time

Saving Edited Overlays

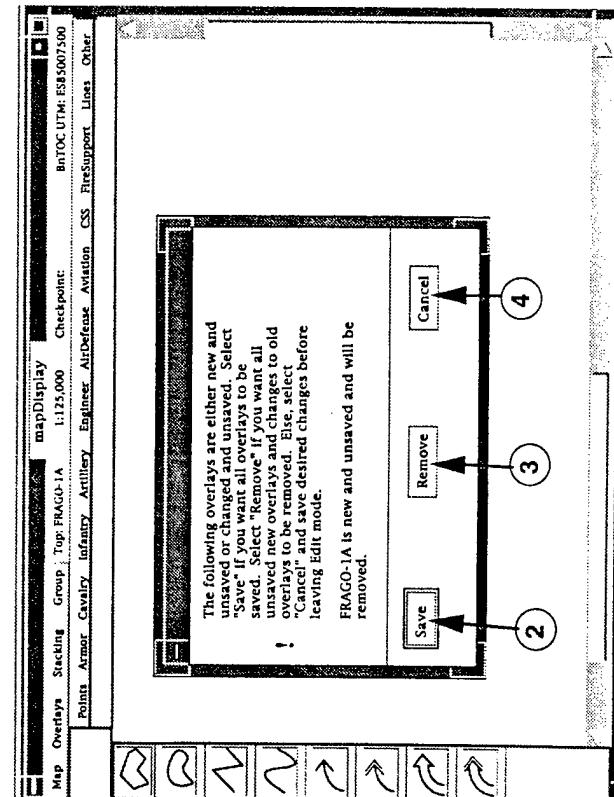
Select Done Editing from Overlays menu

System will prompt to:

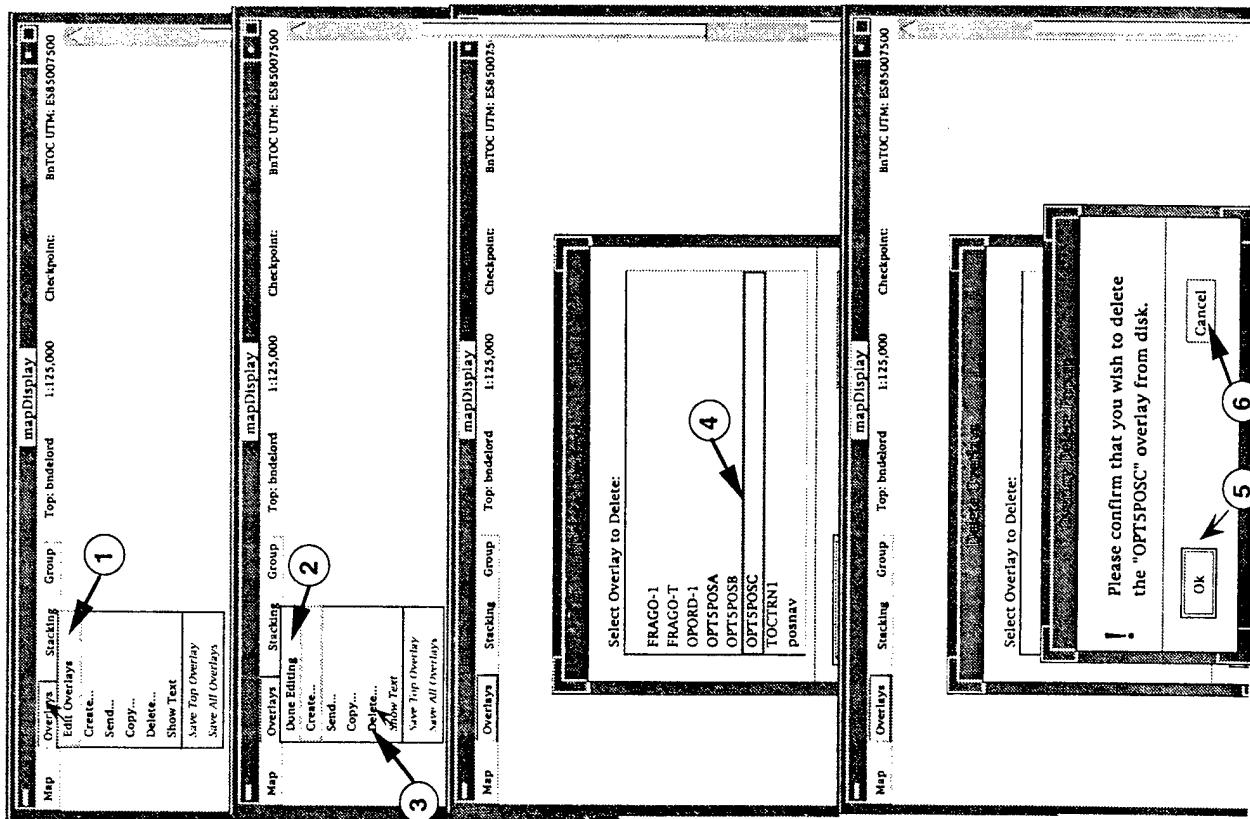
② **Save** : saves changes and returns to Normal Mode

Remove: removes changes and returns to Normal Mode

④ **Cancel** : returns to Edit Mode



Overlays



Overlays

Other Overlay Operations

Editing

① Select Edit Overlays from Overlays menu

Overlay edit features will appear

Make desired changes

② Select Done Editing from Overlays menu

Deleting

③ Select Delete from Overlays menu

④ Highlight desired overlay

Click on Delete :

⑤ OK - to confirm deletion

⑥ Cancel - to return to Delete Overlays pop-up window

Overlays

Other Overlay Operations (Cont.)

Stacking (available only in Normal Mode)

Posting

① **Select Post To Map or Post To SitDisp from Stacking menu**

Highlight desired overlay

Click Post button

Overlay will appear as top overlay on the map screen or situation display

Click Close to return to main menu

Removing

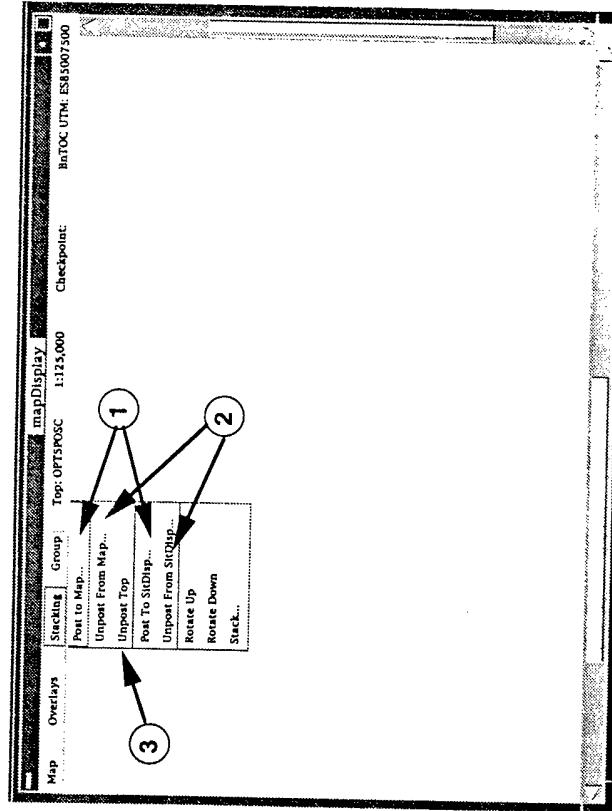
② **Select Unpost From Map or Unpost From SitDisp**

Highlight desired overlay

Click Unpost button

Alternative

③ **Select Unpost Top to delete top overlay**



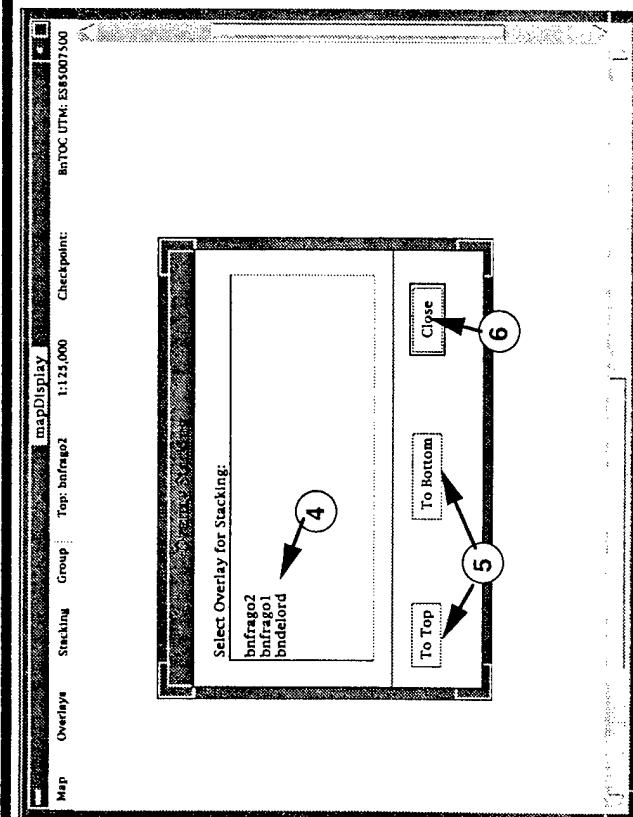
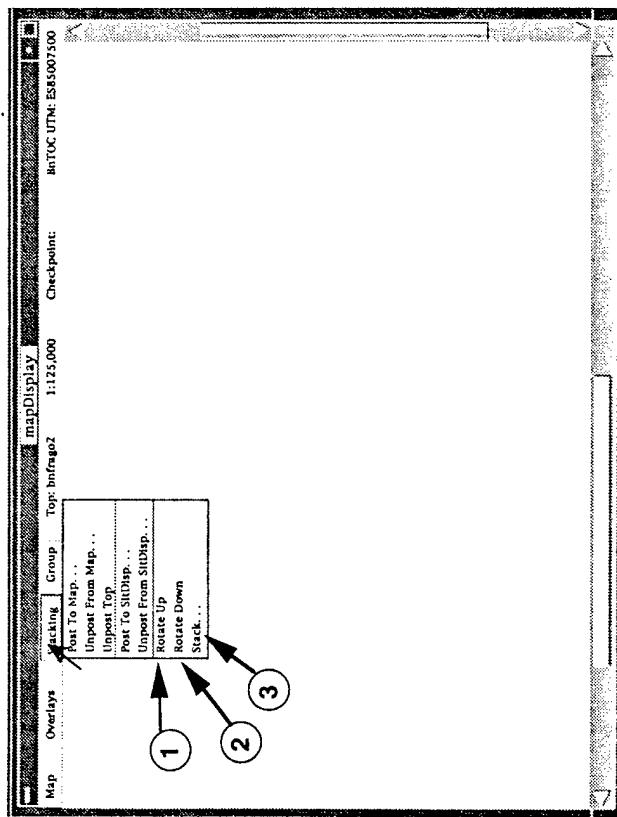
Overlays

Other Overlay Operations (Cont.)

Stacking (cont.)

Changing stacking order

- ① **Select Rotate Up**: moves top overlay to bottom of stack
- ② **Select Rotate Down**: moves bottom overlay to the top
- ③ **Select Stack**: provides list of overlays in stack



Overlays

Other Overlay Operations (Cont.)

Copying Overlays

- ① Select **Copy** from Overlays Menu
- ② Listing of overlays will appear

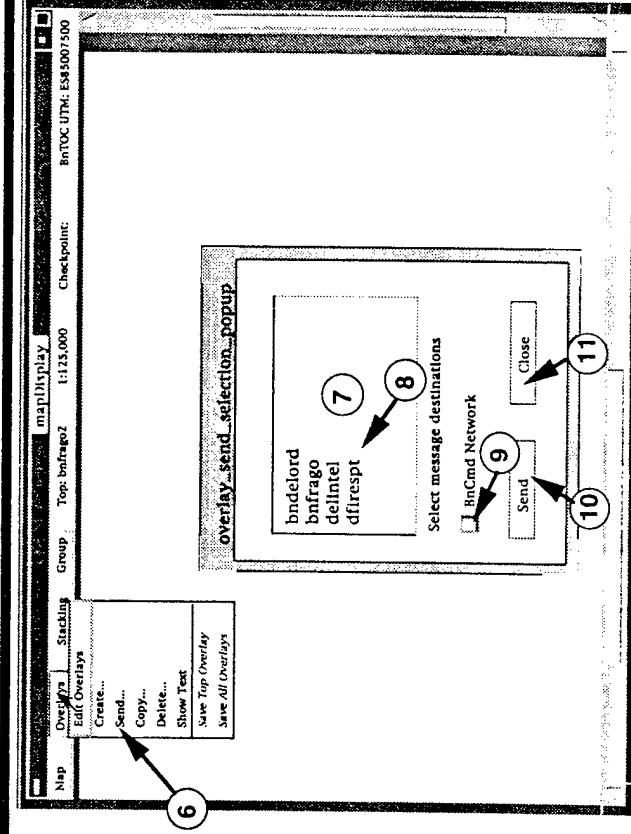
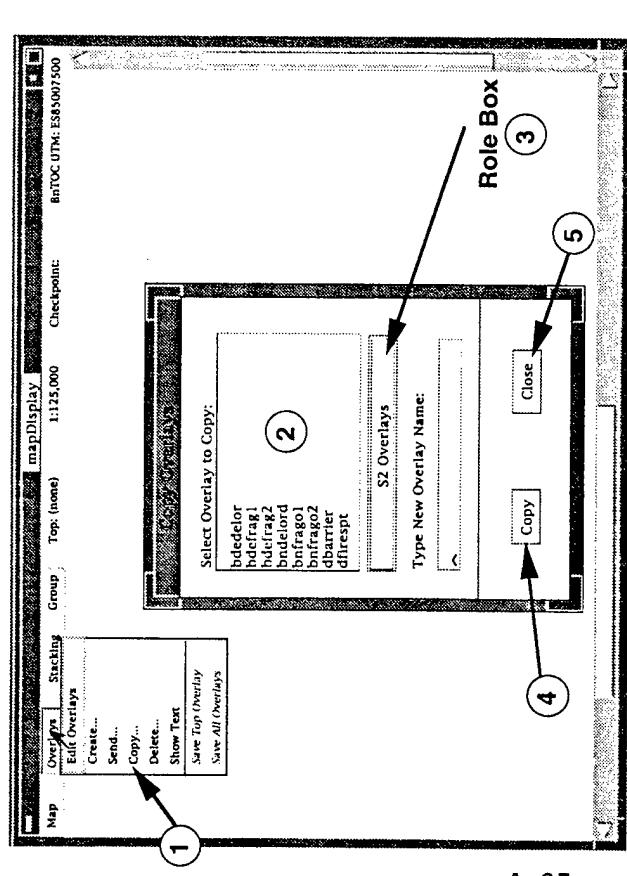
Click on Role box to view list of overlays available on other workstations

- ③ Highlight desired overlay
- ④ Click **Copy** button

- ⑤ Click **Close** to return to current window

Sending Overlays

- ⑥ Select **Send** from Overlays Menu
- ⑦ Listing of overlays will appear
- ⑧ Highlight desired overlay
- ⑨ Click **Send** button
- ⑩ Click **Close** button
- ⑪ Click **Close** button to return to current window

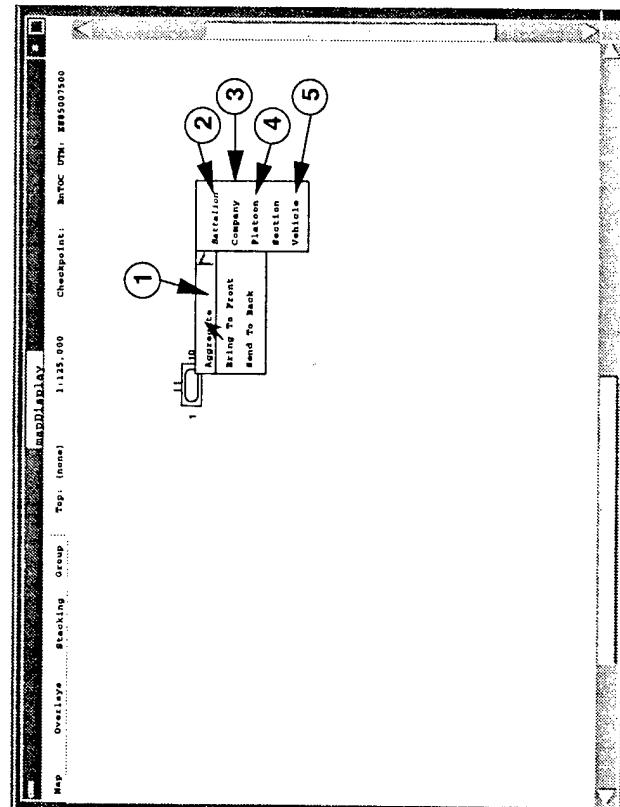


ICONS

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Icons



POSNavi information automatically posts friendly vehicle icons to map displays

Aggregation / Deaggregation

Select **Aggregate** from Object menu

① Select desired option from pop-up menu

② **Battalion**: aggregates all battalion vehicles into a battalion unit symbol

③ **Company**: aggregates all company vehicles into a company unit symbol

④ **Platoon**: aggregates all platoon vehicles into a platoon unit symbol

⑤ **Vehicle**: deaggregates unit symbols into individual vehicles

Icons

Friendly Vehicles (Cont.)

Scale	Default Agg Level for Own Bn Units Upon Receipt	Default Agg Level for Other Bn Units Upon Receipt
1:25,000	Platoon	Company
1:50,000	Platoon	Company
1:125,000	Company	Company
1:250,000	Battalion	Battalion

Aggregation / Deaggregation (Cont.)

Map scales

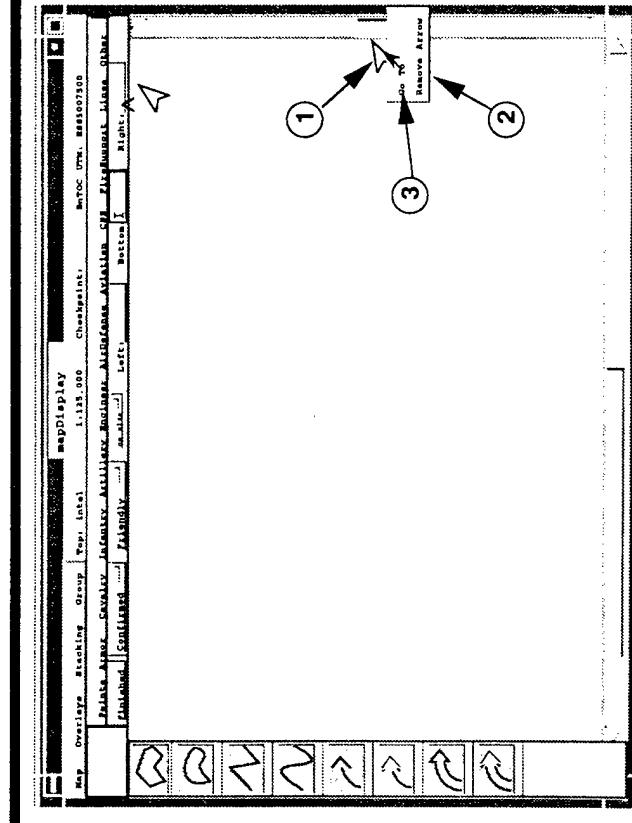
Different aggregation maintained at each scale
Vehicle icons automatically aggregated to map displays

Off-screen arrows

① Off-screen arrows point to report icons posted to map but outside the display area

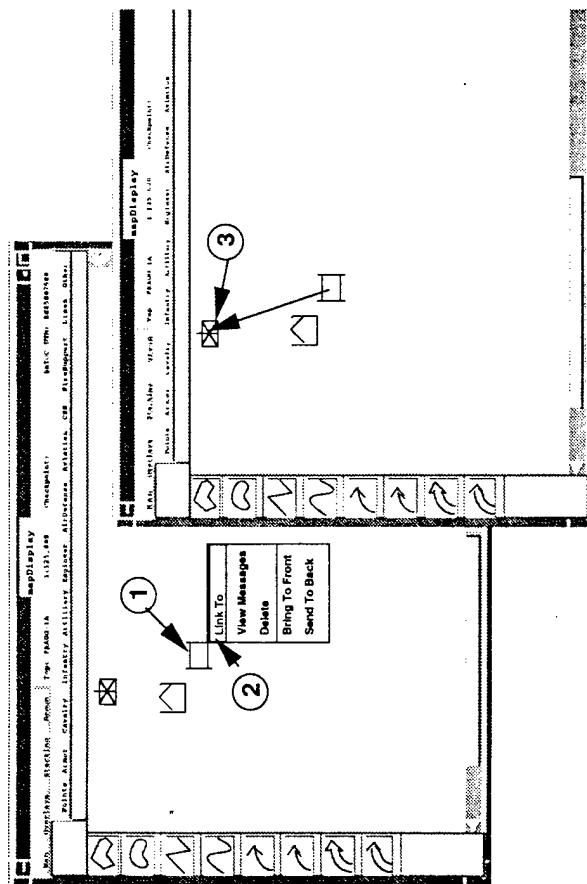
Click and hold on arrow and a pull down menu will appear
② Select Remove Arrow and arrow will disappear but report icon will remain *

③ Select Go To and map screen will center on report icon



Icons

Message Icons



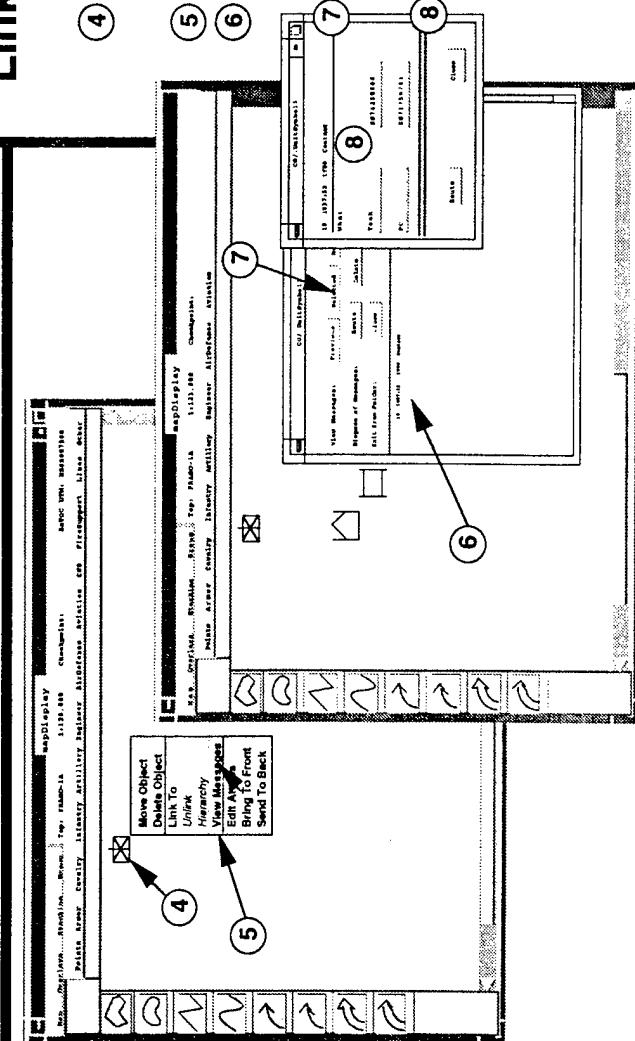
Linking Message Icons to Unit Symbols *

- ① Position cursor on message icon
- ② Select **Link To** from Object menu
- ③ Move cursor to unit symbol
- ④ Click left mouse button

Icon will disappear, message icon is now linked to unit symbol

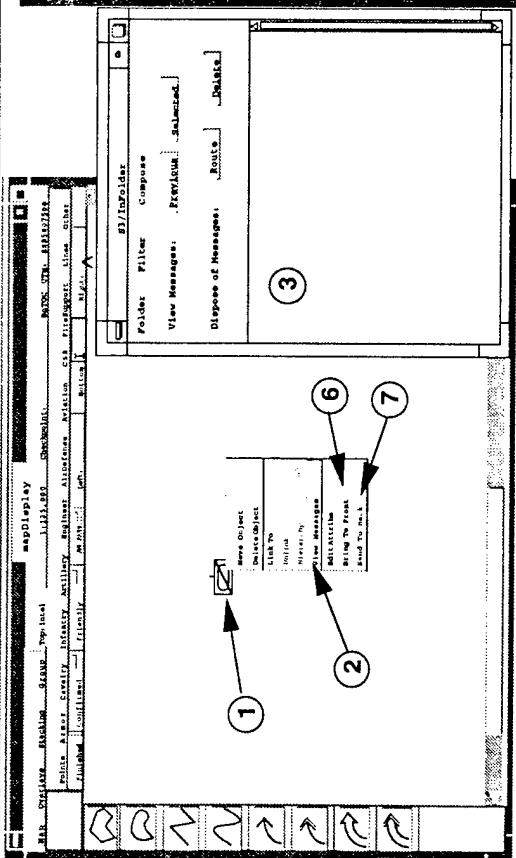
Linking Unit Symbols to Messages

- ④ Click on unit icon (only applies to icons posted from messages)
- ⑤ Select **View Messages**
- ⑥ Highlight desired message in pop-up menu
- ⑦ Click on **Selected**
- ⑧ Message view pop-up will display message



* NOTE: You must be in edit mode

Icons



Viewing a Message

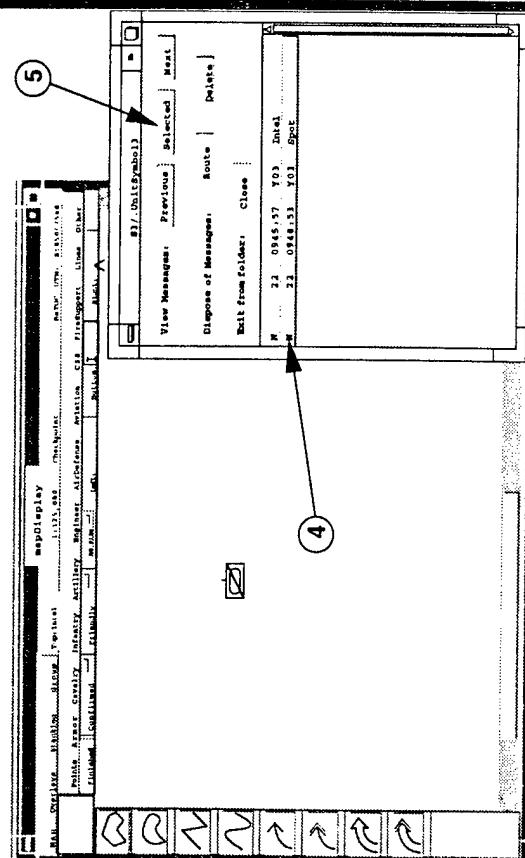
- ① Click on unit icon (only applies to icons posted from messages)
- ② Select View Messages from Object
- ③ menu

Folder outline will appear on right hand monitor

Move folder outline to desired location on screen

- ④ Click left button to drop folder
- ⑤ Highlight desired message
- ⑥ Click on Selected option in the View Messages menu
- ⑦ Message view pop-up will display message

Changing Message Stacking Order



Message Icons (cont.)

Viewing a Message

- ① Click on unit icon (only applies to icons posted from messages)
- ② Select View Messages from Object
- ③ menu

Folder outline will appear on right hand monitor

Move folder outline to desired location on screen

- ④ Click left button to drop folder
- ⑤ Highlight desired message
- ⑥ Click on Selected option in the View Messages menu
- ⑦ Message view pop-up will display message

- ⑥ Select Bring To Front
- ⑦ Select Send To Back

Places selected icon on top of other objects

Places selected icon beneath other objects

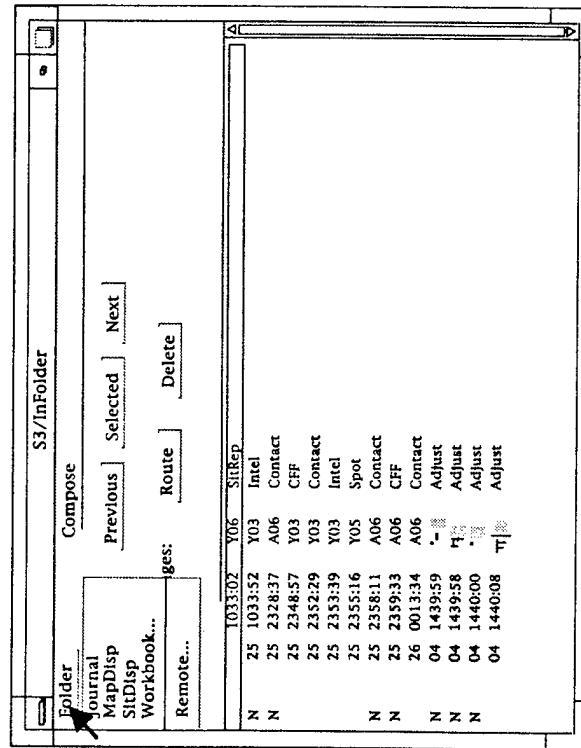
- ⑥ Select Bring To Front
- ⑦ Select Send To Back

MESSAGE MODULE

Contents

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Message Module



Features



Special folders

InFolder
Journal
Map Display
Situation Display
Remote

Contains standard sections
More sections can be created

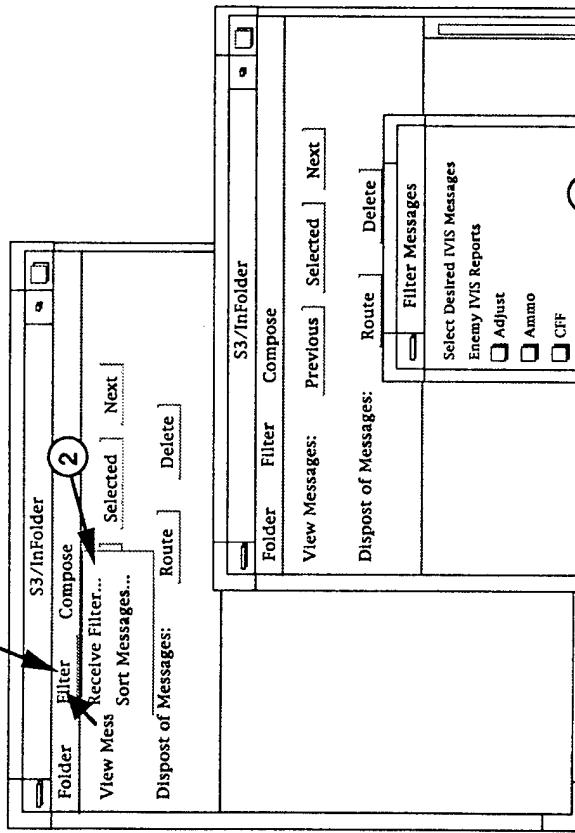
Messages

Receive
Filter
Compose
View

Workbook

Message Module

1



Message Operations

Filtering Incoming Messages

① Select Filter

② Select Receive Filter

③ Toggle on/off desired message types (to filter or retain selected reports)

④ Click on Apply to activate filters and return to current folder

Receiving Messages

⑤ Messages are automatically placed in InFolder
Incoming messages remain in InFolder for five (5) minutes

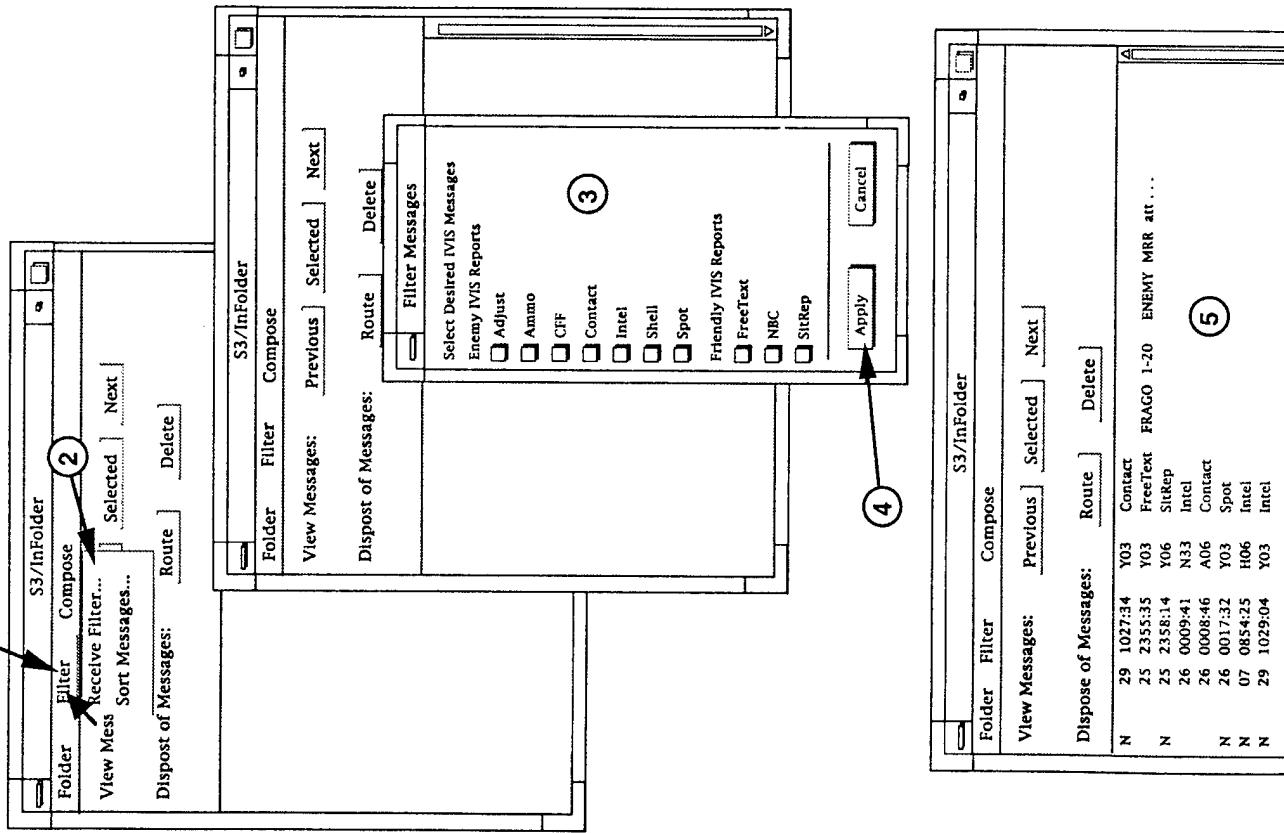
If no action is taken, they are copied to the journal and deleted from the InFolder

Codes:

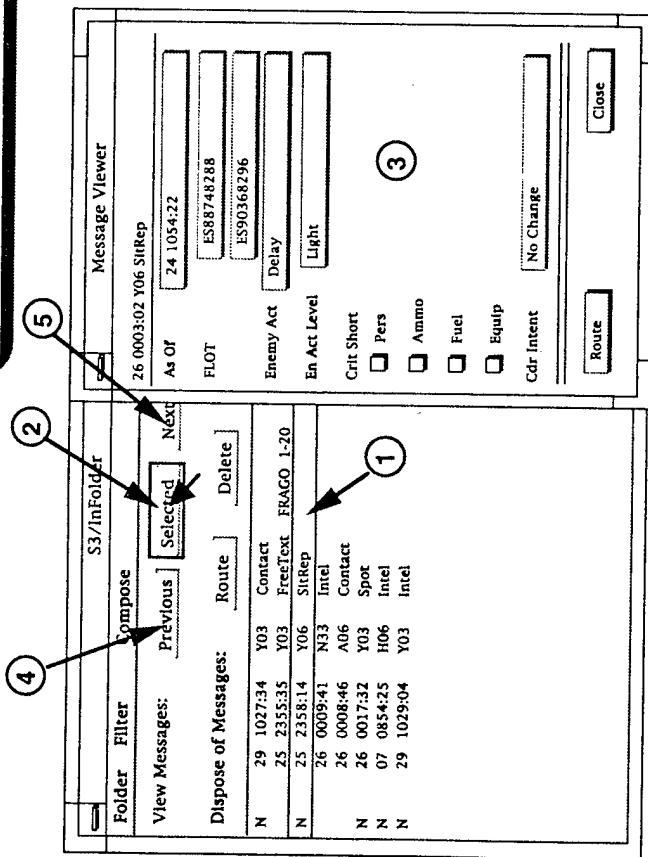
N = New (not yet viewed)

C = Component of an Aggregate Message

A = Aggregate Message



Message Module



Message Operations (cont.)

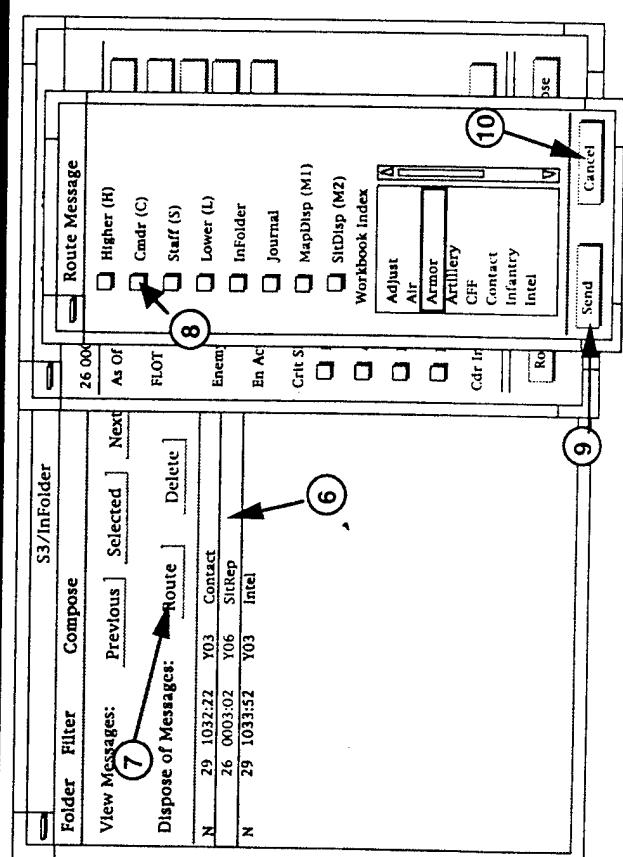
Viewing messages

- ① Click on message information line
- ② Click on Selected button
- ③ Message Viewer box displays message *
- ④ Clicking on Previous button will display next earlier message in Message Viewer
- ⑤ Clicking on Next button displays next later message

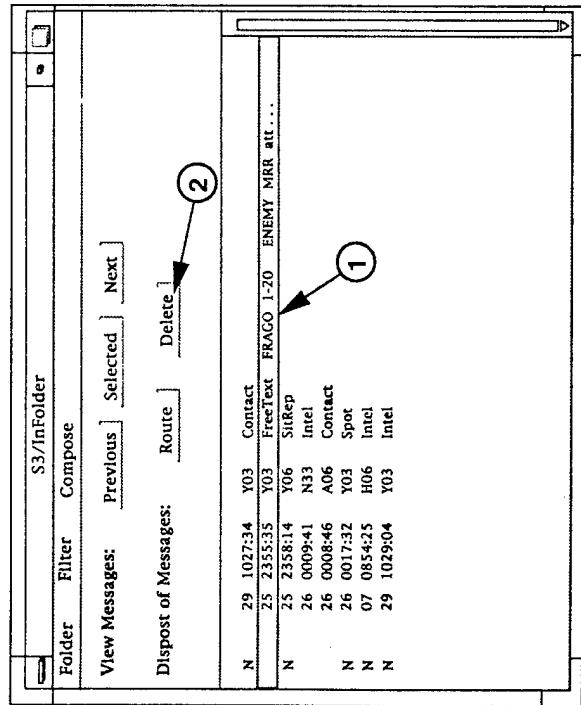
Routing messages

- ⑥ Select message from InFolder
- ⑦ Click on Route button
- Alternative
- ⑧ Click on desired destination(s)
- ⑨ Click Send to send message and return to current folder
- ⑩ Click Cancel to cancel and return to current folder

* NOTE: Double clicking on message line will activate message viewer



Message Module



Message Operations (cont.)

Deleting messages

① **Highlight message line**

② **Click on Delete in InFolder**

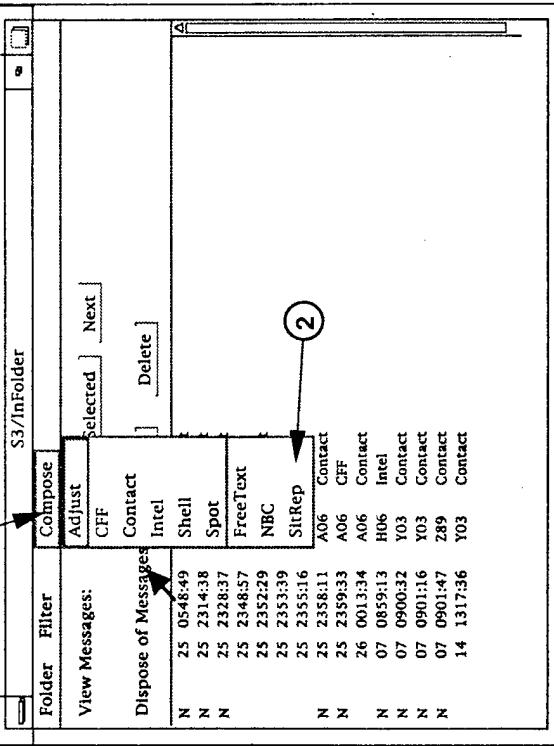
*Deletes message from current folder **

* NOTE: System does not request confirmation

**Deleting message from Map Display or
Sit Display folders automatically
deletes icon from Map Display or
Situation Display**

Message Module

Message Operations (cont.)



Composing messages

General procedures

- ① Click and hold on **Compose** in InFolder menu bar
- ② Drag to desired report and release
- ③ mouse button
- ④ Enter information (example on next page):
 - Response menus
 - Destination options
 - Location fields

Type UTM coordinates and return →

Alternative

Highlight location box(es) and click on map location

Icon appears on map
Icon disappears when message is sent

To post to map display/sit display,
select copy/post message to Map
Display/Sit Display folders

Message Module

Message Operations (cont.)

Composing messages (cont.)

Sample procedures: SITREP

- ① Select **SitRep**
- ② Click on **FLOT** boxes (left then right in direction of enemy)
- ③ Click on **Map Display** at desired locations
- ④ Click on **Enemy Act** box
- ⑤ Select appropriate activity

1. Select **SitRep** from the menu.

2. Click on the **FLOT** boxes for **En Act Level** and **Critic Short**.

3. Click on the **Map Display** at desired locations.

4. Click on **En Act Level**

5. Select appropriate level

6. Click on **Critic Short** buttons

7. Click on **Cdr Intent** box

8. Select appropriate entry

9. Click on **As Of** box

10. Select correct time

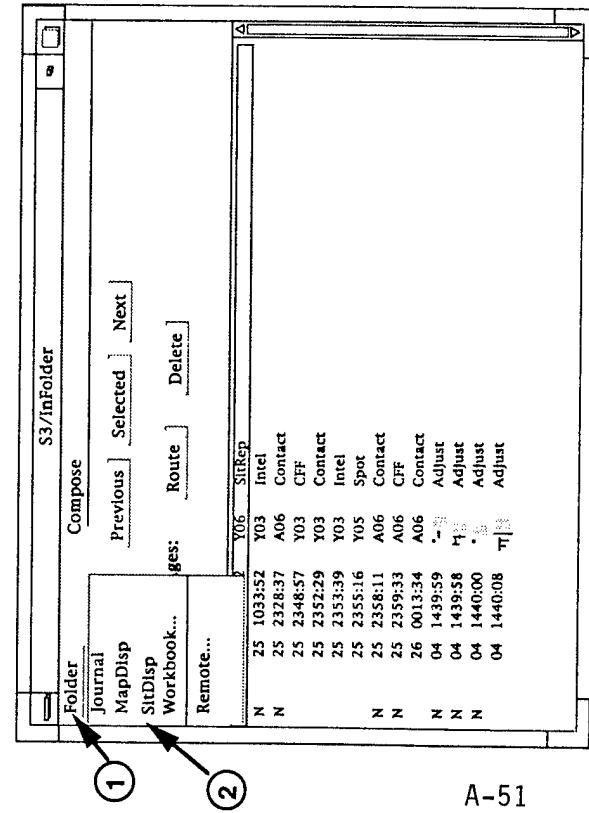
11. Route message

FOLDERS AND WORKBOOK

Contents

	<u>Page</u>
 Managing Folders and Workbook	- A-51
Folders	A-51
Workbook	A-52
Remote Workstations	A-53

Folders and Workbook



Managing Folders and Workbook

Folders

All folders are accessed from the InFolder

Journal: maintains a chronological record of events

MapDisp: posts information on map display

SIT Disp: posts information on the situation display

To access folders:

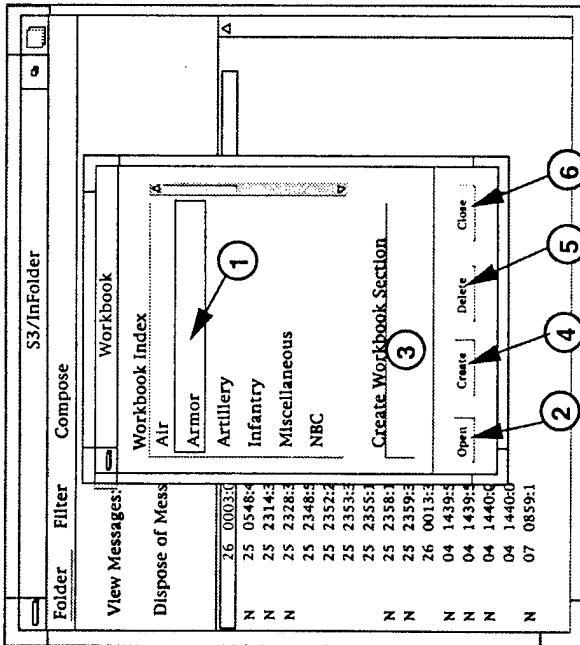
- ① Select Folder menu
- ② Click on desired folder

You may:

- View messages
- Route messages
- Copy messages
- Delete messages

Folders and Workbook

Managing Folders and Workbook (cont.)



Workbook

Click on **Workbook** in Folder menu

- ① Select **Workbook title from Workbook Index**
- ② To open:

① Highlight **workbook title from Workbook Index**

- ② Click on **Open** button
- ③ Opens **selected workbook View and route messages**

To create:

- ③ Click on **Create Workbook Section**
- ④ Enter new **workbook title and return**
- ⑤ Click on **Create** button

To delete:

- ⑥ Click on **selected workbook**
- ⑤ Click on **Delete** button *

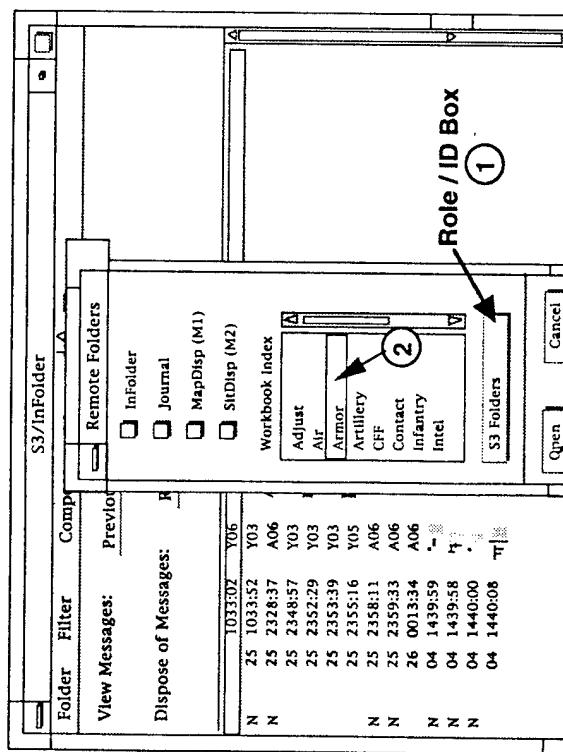
To close:

- ⑥ Click on **Close** button

* NOTE: System does not request confirmation

Folders and Workbook

Managing Folders and Workbook (cont.)



Remote workstations

Allows access to other workstation folders

Select **Remote** from **Folder** menu

To select a different workstation:

① Click on **Role/ID** box until desired workstation name appears

② Highlight desired folders

③ Select **Open** to view desired folders

FORMAT MODULE

Contents

	<u>Page</u>
 Format Manager	A-55
Format Manager Window	A-55
 Format Viewer	A-56
Creating Reports	A-56
Saving Reports	A-56
Editing Reports	A-57
Copying Reports	A-57
Deleting a Report	A-58
Leaving the Format Viewer	A-58

Format Module



Format Manager

Format Manager Window

① Lists available formats

② Selection of a format displays all available reports in List Box

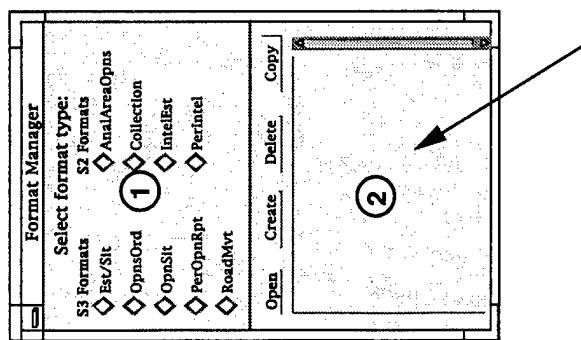
You may:

Create a new report

Open and edit, delete, or copy an existing report

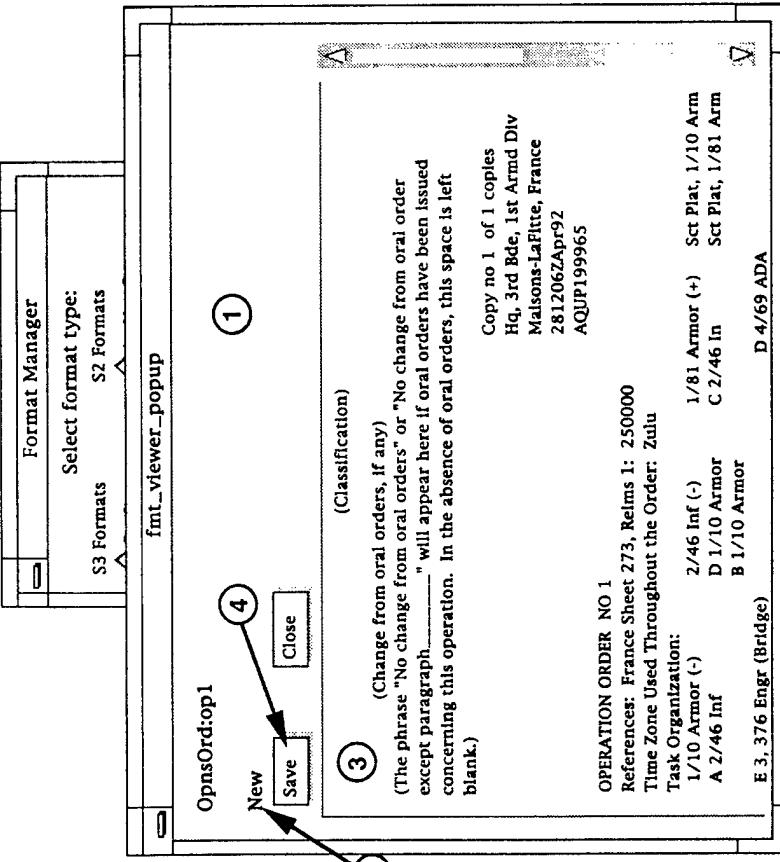
You cannot:

Create or delete reports whose formats are not active on your workstation (e.g. the S2 workstation cannot create nor delete S3 format reports)



Format Module

Format Viewer



Creating Reports

**Select desired report type (e.g. Opsn Ord)
Click on **Create** button
Type report name in **Create**
Click on **Create****

① The FORMAT VIEWER will appear

② The word "new" appears under the report title

③ To change text, click in window and type changes

The word "new or changed" appears under the report title

Saving Reports

④ Click on **Save** button

The word "saved" appears under the report title

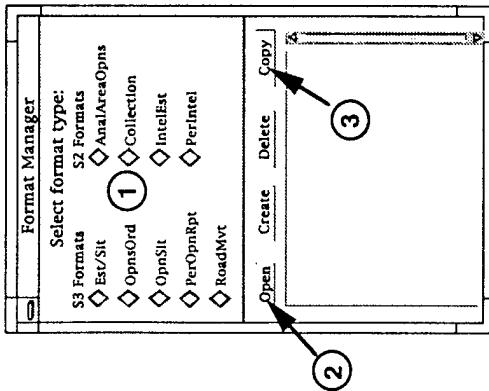
Report will be saved on workstation disk and can be retrieved at any time

Format Module

Format Viewer (cont.)

Editing Reports

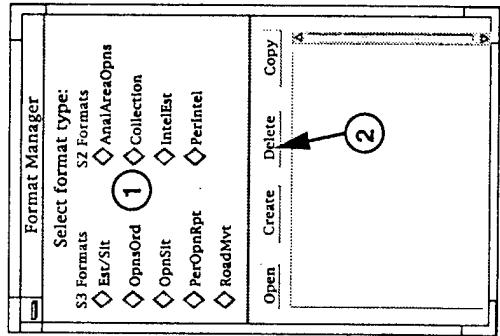
- ① Click on format type in Format Manager window
- ② Select desired report
- ③ Click on **Open**
- ④ Change text as desired
- ⑤ Save or **Close** without saving



Copying Reports

- Click on format type in Format Manager window
- Select desired report
- ③ Click on **Copy** box
- Enter new report name
- Click on **Copy** button
- A copy of the old report with a new name is made

Format Module



Format Viewer (cont.)

Deleting a Report

① Click on format type in Format Manager window

Select desired report

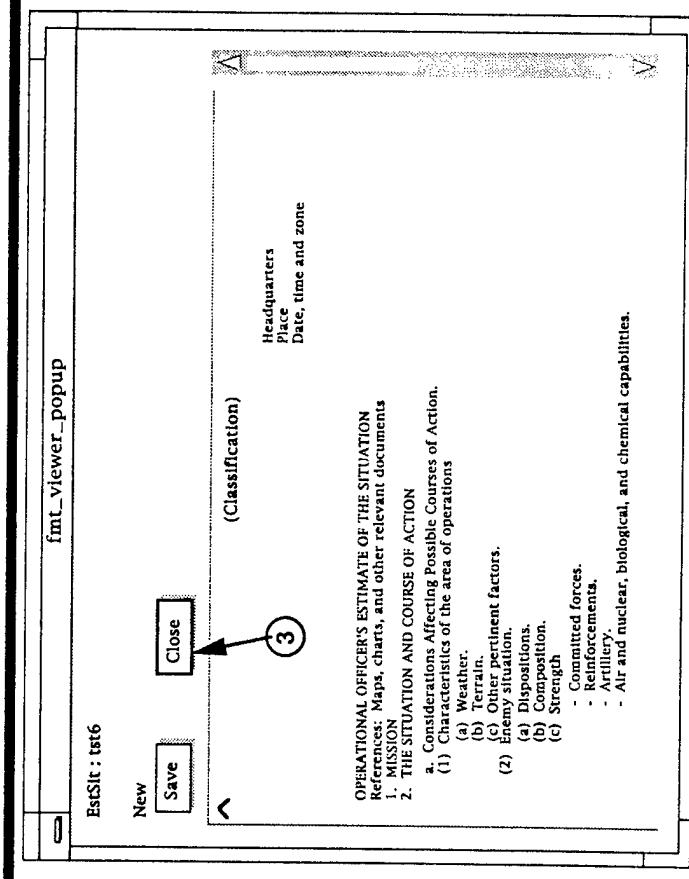
② Click on Delete button

System will request confirmation before deleting

Leaving the Format Viewer

③ Select Close

Returns to Format Manager window

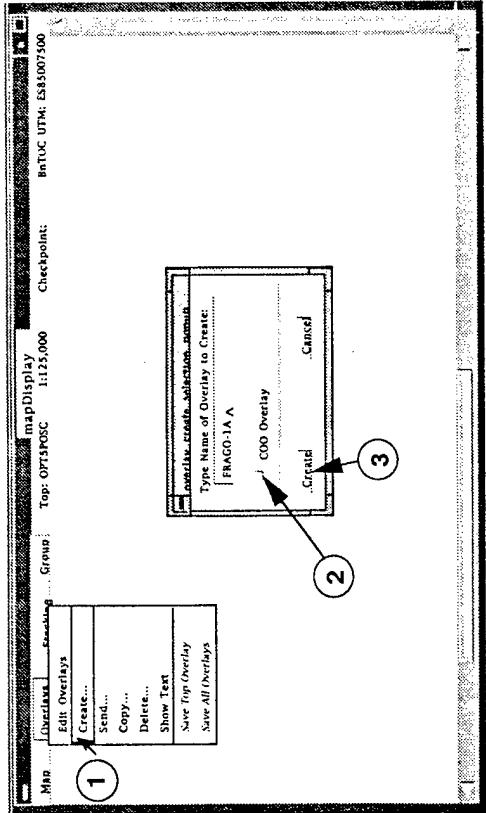


CONCEPT OF OPERATIONS (COO) MODULE

Contents

	<u>Page</u>
 COO Overlay	A-60
Creating the COO Overlay	A-60
Importing a Task Organization	A-60
Adding Phases	A-61
Setting Current Phase	A-62
Deleting Phases	A-62
 COO Operations	A-63
Showing and Hiding Phases	A-63
Briefing COO Overlays	A-63

Concept of Operations Module



Concept of Operations (COO) Overlay

Creating the COO Overlay

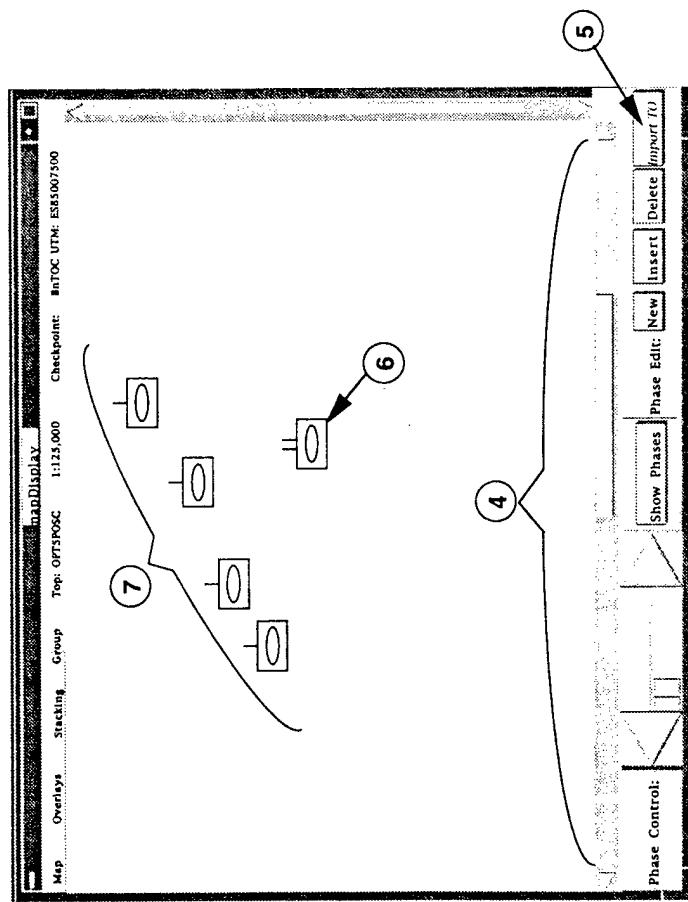
- ① Select **Create** from the Overlays menu
- ② Click on **COO** after typing in name
- ③ Click on **Create**
- ④ A set of special COO commands replaces the normal overlay editing menus

Importing a Task Organization *

- ⑤ Click on **Import TO**
- ⑥ A battalion symbol will appear

- ⑥ Click on battalion symbol with left button
- A pull-down menu will appear

- ⑦ Select desired echelon from the pull-down menu (usually company)
- ⑦ Company symbol icons will appear



* NOTE: A battalion symbol is automatically generated when the COO is created. Do not import a TO unless an additional battalion is desired.

Concept of Operations Module

COO Overlay (cont.)

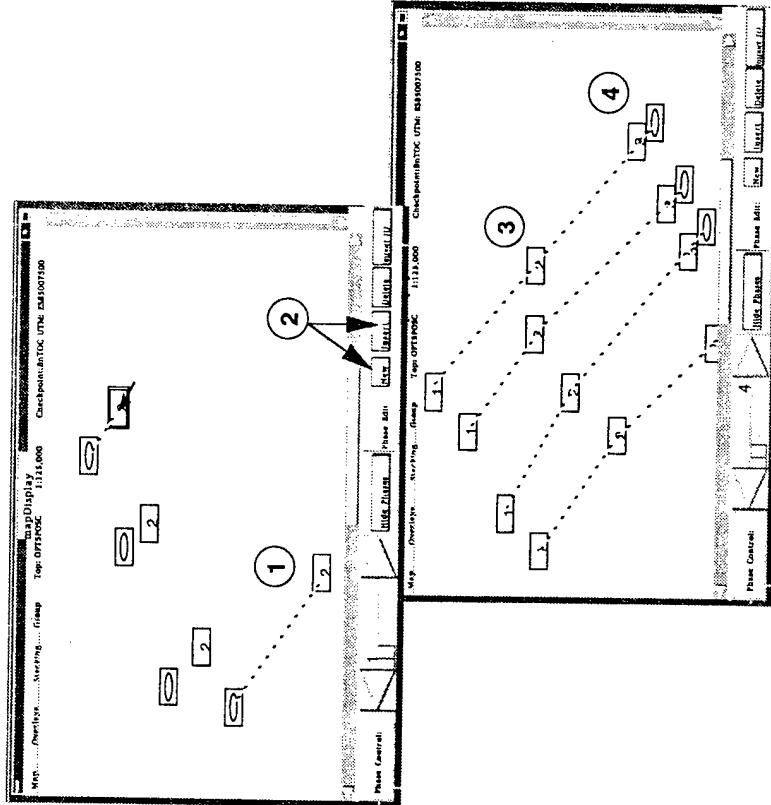
Adding Phases

- ① Position unit icons as desired
- ② **Select New or Insert from the Phase Edit menu line**

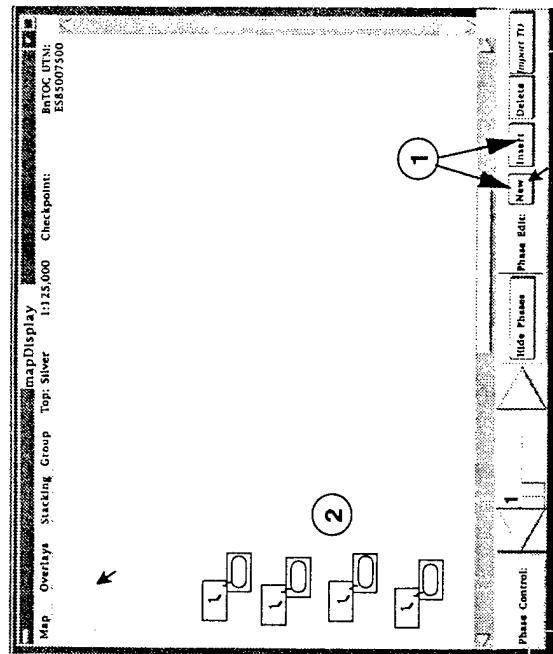
New phase icons for all units will be slightly offset from original icons
- ③ **Move numbered icons to next desired location**
- ④ **Repeat process until all phases are completed**

New phase icons for all units will be slightly offset from original icons

- ③ Move numbered icons to next desired location
- ④ Repeat process until all phases are completed



Concept of Operations Module



Setting current phase

① Add a new phase using **New** or **Insert** command

② The newly created phase becomes the current phase

Alternative

③ Use the **Select** slide or buttons to select another phase

④ Selected phase becomes the current phase

Deleting phases

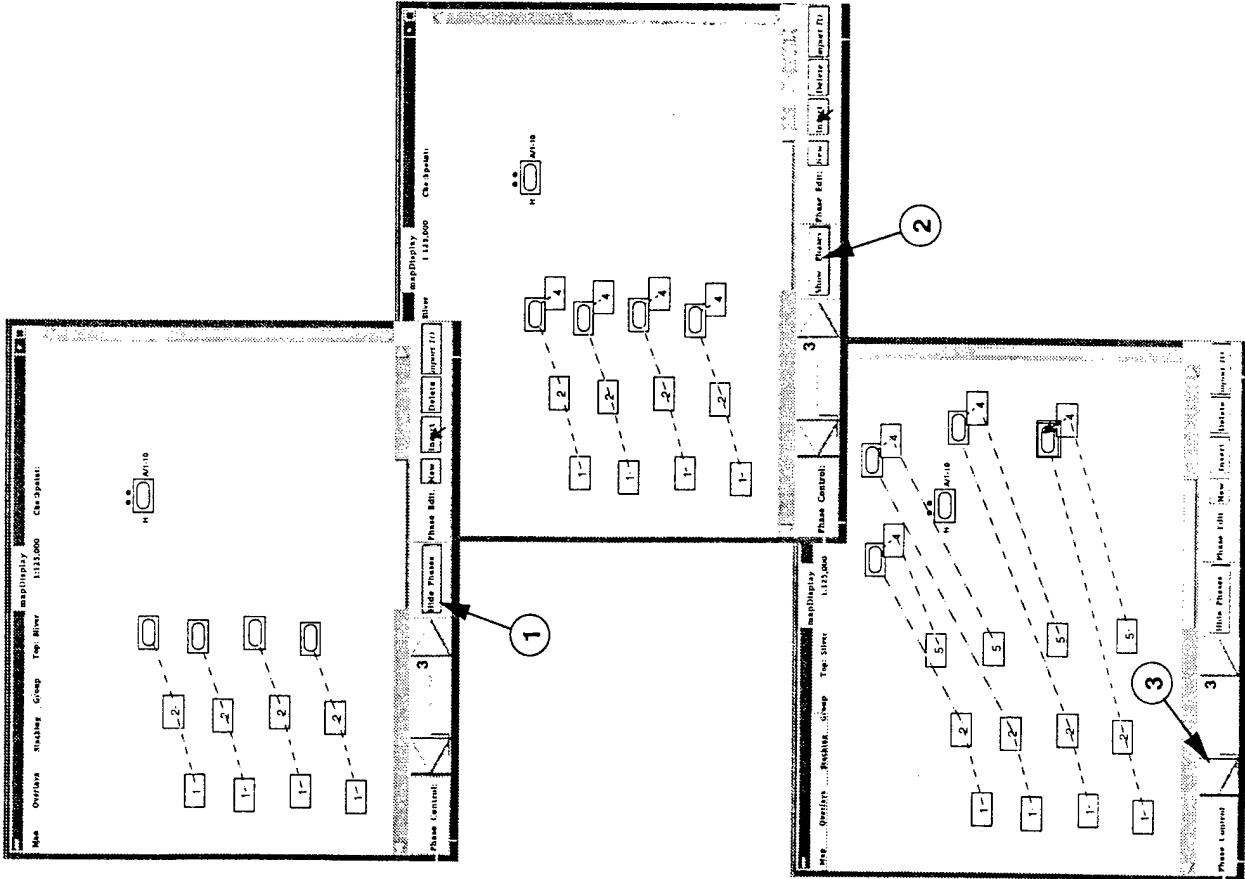
⑤ Select **Delete** button

Deletes all icons from current phase

Alternative

Select **Delete** button on Object Menu

Concept of Operations Module



COO Operations

Showing and hiding phases

① Toggle on Hide Phases

Ghost icons will disappear
Only current phase is visible

② Toggle on Show Phases

Ghost and current phase icons will
be displayed

Briefing COO overlays

③ Click on arrow buttons on the Select Phase slides to step through the overlay one phase at a time

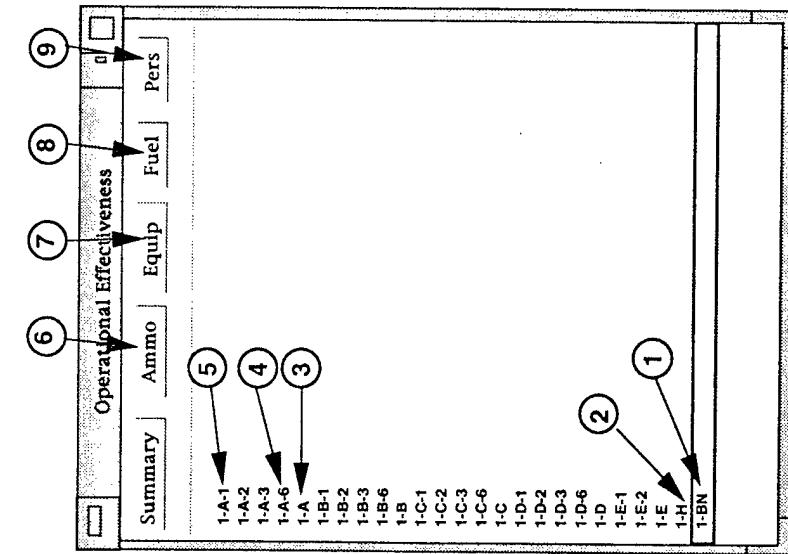
Drag slides to arbitrarily move through phases

TASK ORGANIZATION / OPERATIONAL EFFECTIVENESS

Contents

<u>Page</u>	
Module Operation	
Purpose	A-65
Getting Summary Information	A-66
Status Circle Chart	A-66
Ammunition Status	A-67
Equipment Status	A-68
Fuel Status	A-69
Personnel Status	A-70

Task Organization/Operational Effectiveness (TO/OE) Module



Module Operation

Purpose

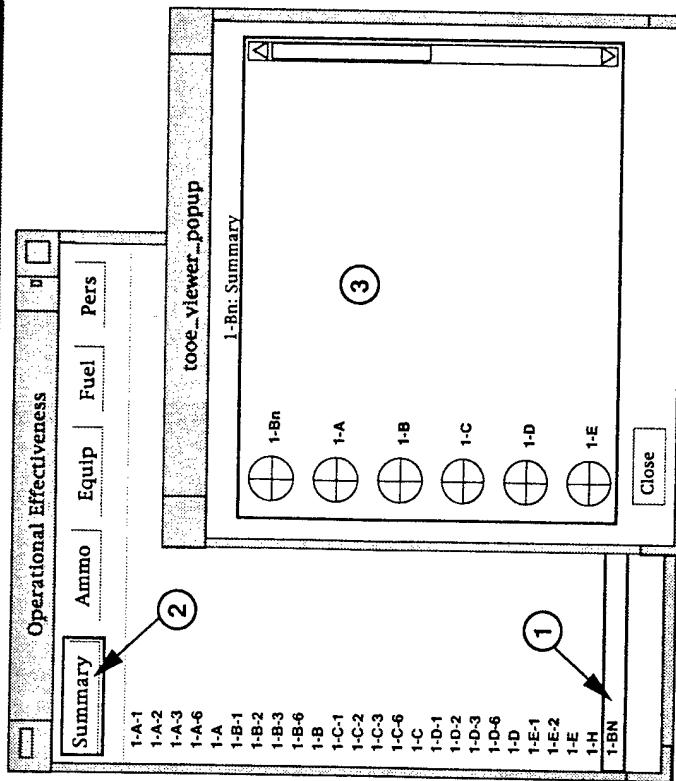
The TO/OE Module can provide a summary OE status of:

- ① The entire battalion (1-BN)
- ② The battalion commander and S3 (1-H)
- ③ A selected company (e.g., 1-A)
- ④ A selected company commander and XO (e.g., 1-A-6)
- ⑤ A selected platoon (e.g., 1-A-1)

The TO/OE Module can provide specific status in the following categories:

- ⑥ Ammunition (Ammo)
- ⑦ Equipment (Equip)
- ⑧ Fuel (Fuel)
- ⑨ Personnel (Pers)

Task Organization/Operational Effectiveness (TO/OE) Module



Module Operation (Cont.)

Getting Summary Information

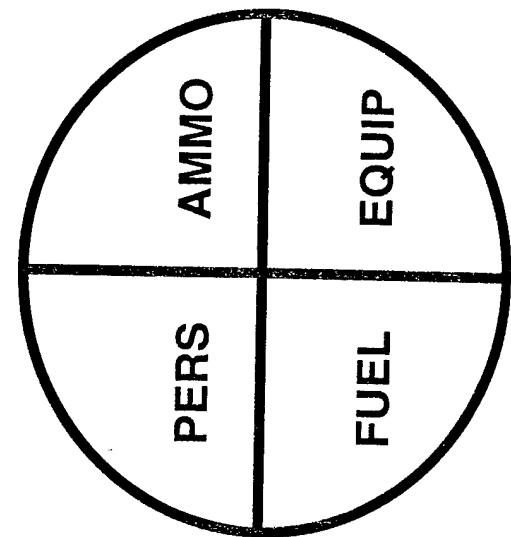
- ① **Highlight desired unit**
- ② **Click on Summary**
- ③ *A summary pop-up will appear on the screen*

Status Circle Chart

Each quadrant represents a specific operational effectiveness category

Quadrants will be color coded on your monitor in accordance with the following criteria

Green (G) = 90 - 100%
Amber (A) = 70 - 89%
Red (R) = 60 - 69%
Black (B) = 0 - 59%



Task Organization/Operational Effectiveness (TO/OE) Module

Module Operations (Cont)

Ammunition

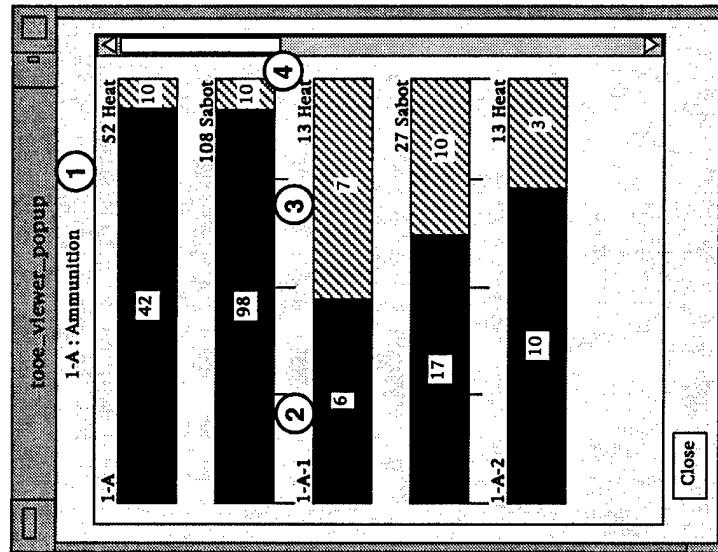
Highlight desired unit

Click on Ammo button in OE window

- ① An ammunition pop-up will appear on the screen
- ② The number in the left portion of the bargraph (solid color *) indicates the number of rounds remaining
- ③ The number in the right portion of the bargraph (hatched color *) indicates the number of rounds used
- ④ The number at the right top of the bargraph indicates the number of rounds required for a full basic load for the reporting vehicles. **

* NOTE: The entire bargraph will be colored IAW the criteria specified previously

** NOTE: If Vehicles have been lost in combat, this number will be reduced accordingly.



Task Organization/Operational Effectiveness (TO/OE) Module

Module Operations (Cont)

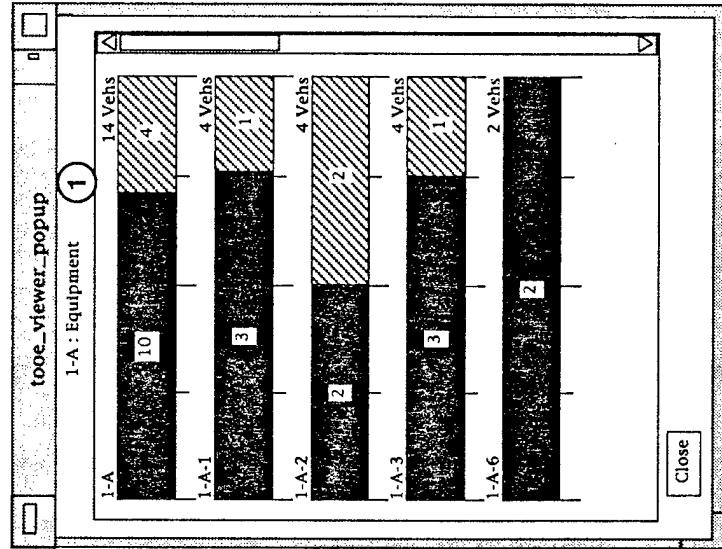
Equipment Status *

Highlight desired unit

Click on Equip

① *An equipment pop-up will appear on the screen*

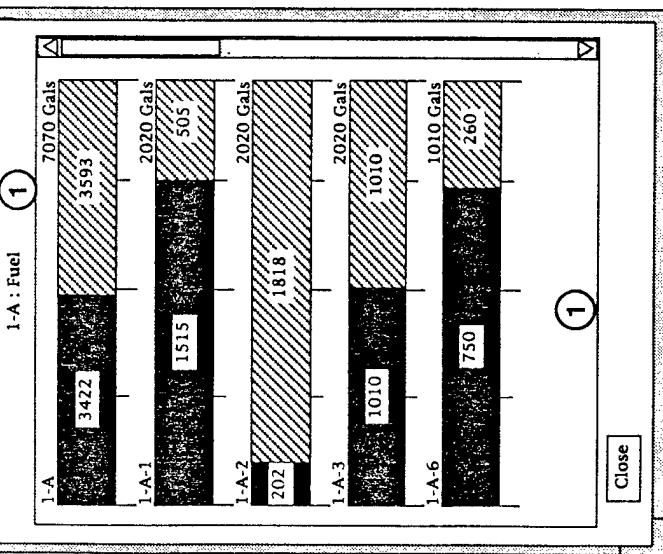
* NOTE: The numbers depicted on the bargraph follow the same convention as for ammunition



Task Organization/Operational Effectiveness (TO/OE) Module

Module Operations (Cont)

Fuel Status *



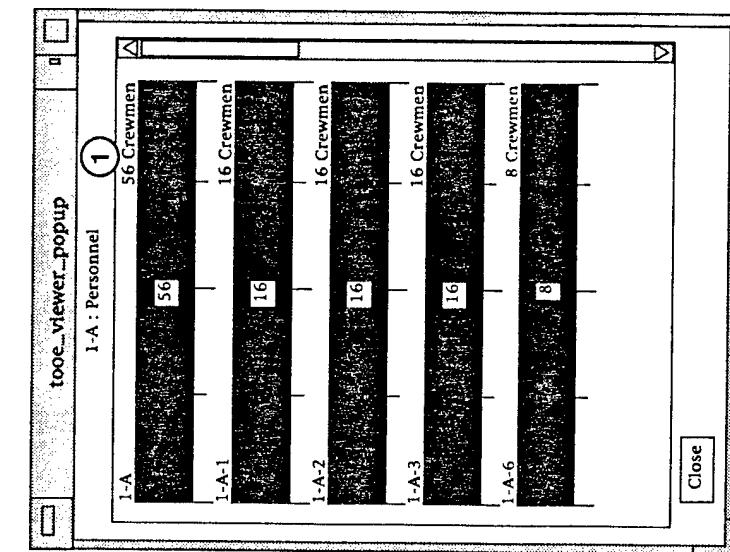
Highlight desired unit

Click on Fuel

- ① A fuel pop-up will appear on the screen

* NOTE: The numbers depicted on the screen follow the same convention as for ammunition

Task Organization/Operational Effectiveness (TO/OE) Module



Module Operations (Cont)

Personnel Status *

Highlight desired unit

Click on Pers

① A personnel pop-up will appear on the screen

* NOTE: The numbers depicted on the barginraph follow the same convention as for ammunition

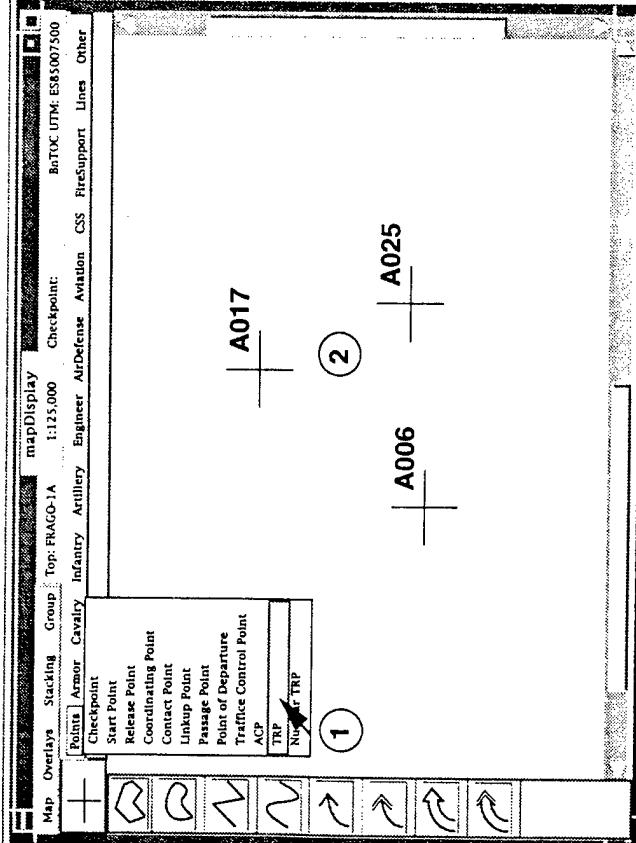
FIRE SUPPORT MODULE

Contents

	<u>Page</u>
 Creating the Fire Support Overlay	A-72
TRPs (Target Reference Points)	A-72
Field Artillery / Mortar Positions	A-73
  Calls for Fire (CFF)	A-74
Target Processing	A-74

Fire Support Module

Creating the Fire Support Overlay *



① Select **RP** from the **Points** pull-down menu

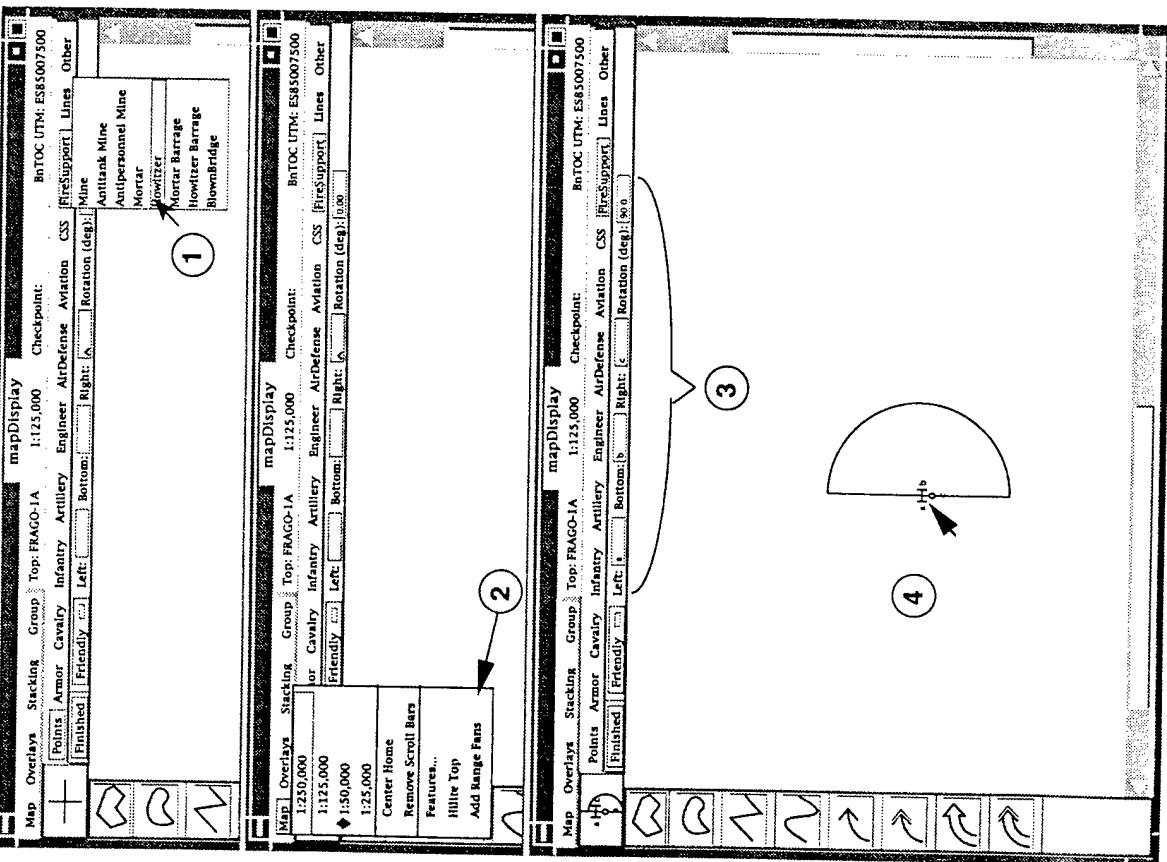
Type in desired TRP number in the Label window on the attributes bar menu and return ↵

② "Drop" the TRP at desired location

Repeat until all TRPs are posted to the Fire Support Overlay

* NOTE: See "Creating Overlays", p. 18

Fire Support Module



Creating the Fire Support Overlay (Cont)

Field Artillery / Mortar Positions

- ① Select the desired item from the **Fire Support** pull-down menu

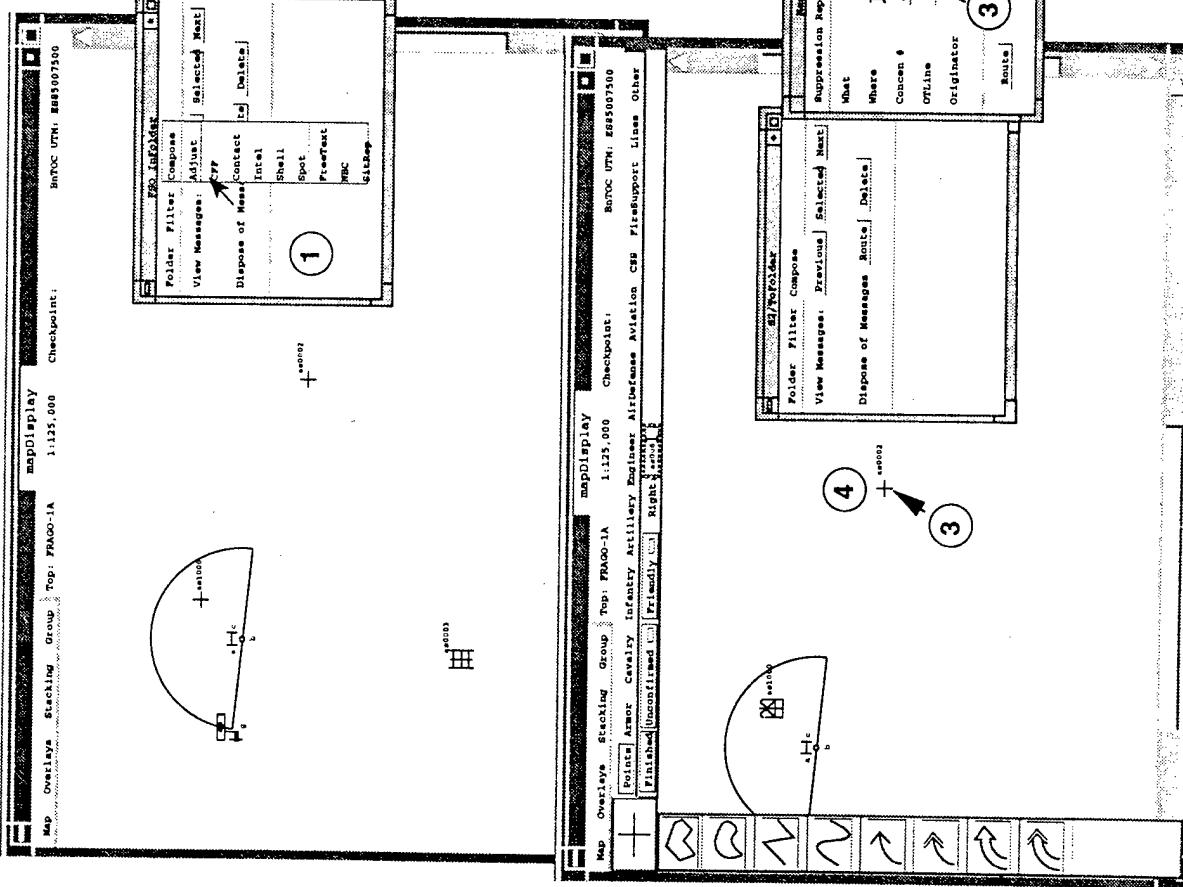
- ② Select **Add Range Fans** from the **Map** menu

- ③ Type in the desired labels and rotation parameters in the attribute menu bar and return →

- ④ "Drop" the selected item at the desired location on the map

Repeat until all desired fire support systems are posted

Fire Support Module

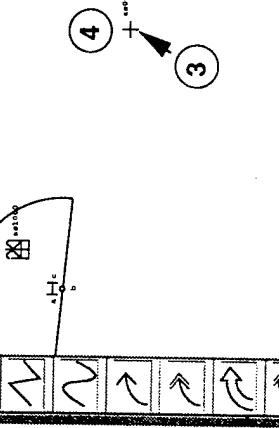
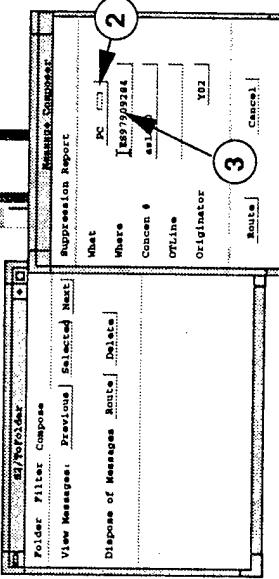


Target Processing

- ① Select CFF from the Compose menu pull-down in the FSO / InFolder

When the Message Composer menu appears:

- ② Choose the type target -- What
- ③ Designate the location with the pointer -- Where



Targets may be engaged using pre-planned concentrations with available and in-range fire support means.

* NOTE: You must be in Normal mode for this to function

SITUATION DISPLAY

CONTENTS

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Displays	A-76
System Operations	A-76

Situation Display

paste-up from
BOB's stuff



Display Monitor

Displays:

Friendly vehicle locations
(automatically)

Messages (when routed)

Enemy locations
Obstacles, minefields, etc.

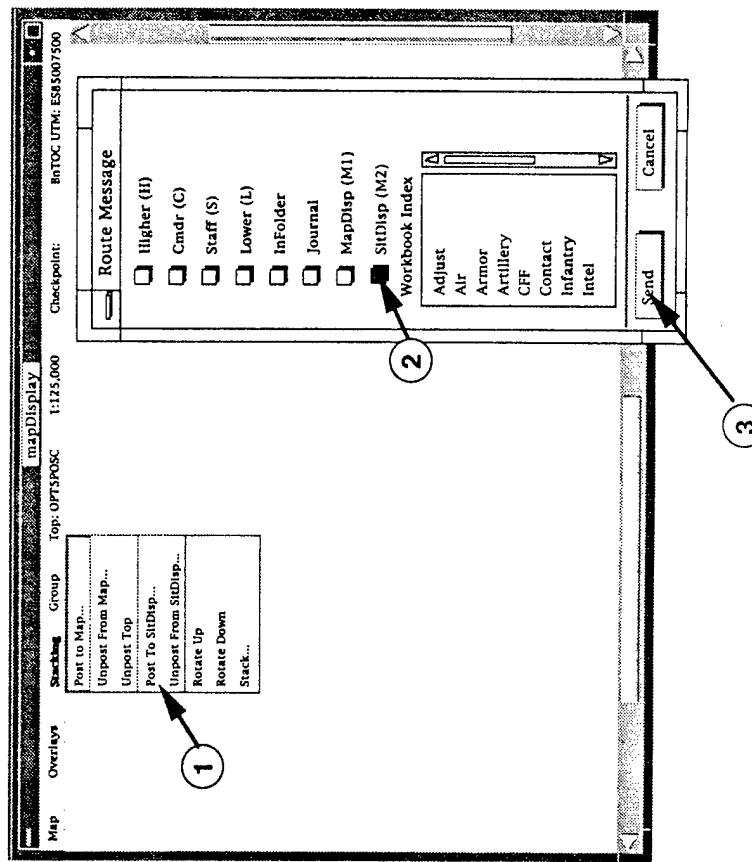
Overlays (when posted)

System Operations:

- ① To post overlays, select **Post to SitDisp** from the Stacking pull down menu on the Map Display screen

- ② To post a message, select **SitDisp (M2)** from the Route Messages menu in the InFolder window and click on **Send**

③



PRINTER

Contents

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System Operation	A-78
Capability	A-78
Printing	A-78

Printer

System Operation

Capability:

Color

Prints screen only

Hardwire mouse connected to selected workstation(s)

Printing:

Manipulate workstation screen to desired display

① Ensure Ready light on printer mouse is lit (Green)

② Depress center button on printer mouse

③ Printing light will illuminate (Amber) and printing will begin (Amber light will go out after a few seconds)

When printing is complete, the green Ready light will again illuminate

